

THE
ANGLO-INDIAN'S HEALTH
ABROAD AND AT HOME.

G. SHERMAN BIGG.

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BY

G. SHERMAN BIGG,

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TO THE MEMORY

OF HIS FATHER

H. HEATHER BIGG,

THIS BOOK IS DEDICATED

AS A

TRIBUTE OF AFFECTION

BY

THE AUTHOR.



INTRODUCTION.

THERE are in India so many diseases which may be said to be unknown in England, that the study of the Anglo-Indian's health becomes a matter of special interest.

The presence of malaria and the atmospheric influences so completely alter the character of many of the symptoms and the methods of treatment, that the true nature of the disease is often entirely masked, and the customary medicines fail to confer any benefit.

This work does not lay claim to any literary merit, but aims at recording the author's practical experience in India, epitomised from notes which he carefully made at the time, and also as testifying to those methods of treatment which may have been already advocated in

standard works, and which he has found to yield the most satisfactory results.

The object is twofold : first, to call the attention of the medical man, recently arriving from home, to the fact that the diseases, with their symptoms and treatment, differ in many respects from those he has been accustomed to see in England ; and, secondly, to place within the power of those outside the reach of medical aid the means of recognising and treating the diseases met with in India.

G. SHERMAN BIGG.

LONDON, 1887.

PART I.

THE ANGLO-INDIAN'S HEALTH ABROAD.

ACCLIMATISATION.

THE discussion on the possibility of a European becoming acclimatised has always been a fertile source of controversy, but the diversity of opinion is chiefly dependent on the meaning of the word acclimatisation. If it should be construed to mean that a European, exercising care and prudence, and being able to select his place of residence, and to change it at his pleasure, can live in India as free from disease as he can in England, the answer is decidedly in the affirmative, but if on the contrary it should be thought to imply that a European can train or mould his constitution to resist disease due to the effects of climate, a most

emphatic denial must be given. The influence of the climate of India on a European is to diminish the number of respirations, to increase the action of the skin, to lessen the circulation, and to induce congestion of the liver and spleen. These changes may be an attempt on the part of nature to adapt the constitution to the altered conditions of the climate, but they may overstep the boundary limit of health so that the number of respirations may be so diminished as to interfere with the proper oxygenation of the blood, and the due elimination of the carbon, in the form of carbonic acid, from the lungs. The insufficient supply of oxygen and the retention of the carbon lead to a poisoned condition of the blood, which secondarily affects the internal organs, *i. e.* the brain, lungs, heart, liver and spleen, and ultimately originates organic disease.

The continuous and prolonged effect of heat slowly undermines the European constitution, and destroys the power of digestion, for, in spite of thermantidotes, punkahs, ice and the early closing of all doors and windows, artificial aids to lessen the heat, the air is not purified. The heat extracts the products of putrefaction, and the humidity of the air retains them, so that it is impossible to breathe fresh and pure air, and sooner or later this contamination must

tell upon the constitution. A further proof of the debilitating influence the climate exercises is shown by the fact that men feel this heat more, and are less capable of resisting cold in the second year in the country than they are in the first, and that their powers of resistance diminish every subsequent year of their residence.

Removal from the heat is the only remedy which is able to counteract and undo the evil effects of the climate, and a change to the hills will enable the lungs to regain their full capacity, the blood to circulate freely, and the invalid's strength to be restored, provided the change from a hot to a cool climate has not been postponed till organic disease has developed.

PREVENTION OF DISEASE.

The prevention of disease is in reality more important than the cure, since the presence of malaria, the intense heat, the fluctuating temperature, and a want of sanitation are factors against which the Anglo-Indian has always to contend. To maintain good health, strict attention should be paid to the mode of living as regards exercise, diet, dress, baths, sleep, occupation, and smoking.

EXERCISE.

Exercise in strict moderation, neither too much nor too little, is necessary since the natural tendency of the Indian climate is to encourage a life of indolence and inactivity, with subsequent torpidity of the liver. The nature and amount of exercise must necessarily vary with individual constitutions, but a walk or ride on horseback should be systematically taken every day. As a rule, people take far too little exercise, and many of the diseases, especially amongst women, can be attributed to the disinclination for active exertion. The time of day during which exercise should be indulged in opens out a serious question. The coolest, and therefore the most pleasant time, is the early morning, but these hours are also the most refreshing and invigorating for sleep ; and when it is borne in mind how frequently the night is spent in restlessness and tossing about, the importance of a good sleep is manifest. Exercise can equally well be taken later in the day, and the afternoon is the customary time devoted to polo, tennis, cricket, and other active amusements.

Too little exercise is a fault but excess is likewise bad. The thoughtless way in which

both men and women, even though showing symptoms of exhaustion, continue to indulge in outdoor pastimes until the darkness compels them to desist, is a matter more of surprise than a compliment to their common sense.

Dancing is another form of exercise which should be avoided by all prudent persons; for not only is the body over-heated and predisposed to take a chill, but in the pleasurable excitement the sense of fatigue is disregarded and forgotten.

Gymnastics, too, may be carried to excess, and the use of dumb-bells should be discountenanced. Light clubs may be used; and young children should be encouraged to skip.

DIET.

The quantity, quality, and kind of food consumed greatly influence the health; still it is quite impossible to lay down any precise rules for the guidance of those Europeans who live in India. A few general hints may be thrown out and the rest should be learnt by experience.

The usual meals are: "chota-haziri," or little breakfast, breakfast, tiffin or luncheon, and dinner.

The chota-haziri should consist of a cup of tea, or coffee, or a glass of milk, a slice of toast, and a little fruit.

Breakfast should be more substantial, consisting of a selection from fish, eggs and bacon, pillau, pish-pash, kidneys, brain cutlets, with tea, coffee, or cocoa, and bread and butter.

Tiffin should be a light meal composed of a little curry and rice, bread or biscuits, and fruit.

Dinner should consist of soup in a small quantity, fish, joint, and sweets.

Should the principal meal of the day be eaten at midday, only a light tea or supper in lieu of dinner is permissible in the evening. A hard-and-fast rule cannot be laid down as to the proper time of the day to eat the principal meal, but for those engaged in active pursuits or manual labour the midday is probably the better time, whilst for those whose daily employment is mental work the evening is the more suitable hour. Under any circumstances there should only be *one* principal meal, either let it be a substantial dinner and a light tiffin, or a substantial tiffin and a light dinner, but not two substantial meals.

Animal and fatty foods are heat producers, consequently the necessity for this class of food being small, meat should only be eaten once in the twenty-four hours. Taking a hint from the

natives, farinaceous and vegetable foods and fruit should form the greater proportion of the solid diet. Fruit should be eaten in moderation and only during the early part of the day, and a glass of water should be taken just before going to bed. Tea and coffee are important articles of diet as they possess a stimulative, invigorating, and restorative action on the nervous system, and are a protection against heat and cold, in the one case by promoting the action of the skin and in the other by producing warmth. Cocoa is nourishing and fattening, but differs from tea and coffee in not possessing the stimulative action on the nervous system.

ALCOHOL.

It is not proposed to discuss the relative merits of total abstinence and moderate drinking, but the fact that a large number of persons abstain from alcohol and enjoy good health is corroborative evidence that it is *unnecessary* as an article of diet, and though conversely it may be a fact that a large number of persons drink in moderation and also enjoy good health, yet this is only corroborative evidence that alcohol in moderation is not harmful, but does not supply

an iota of evidence to prove the necessity for it.

The action on the nervous system is to dull the perception of the senses, by its narcotising influence, and it has been shown, beyond a doubt, that alcohol, even in moderation, does produce in some constitutions degenerative changes in the stomach and liver. It is probable that the brain, lungs, and kidney also participate in these degenerations.

Facts must, however, be faced, and since the majority of Europeans in India do drink wine, beer, and spirits, it may be as well to consider in what form alcohol is the least hurtful to the system. The new-comer drinks his beer with relish, but in the course of a few months learns from experience that he must give it up. Brandy, whisky, gin, and other spirits should only be taken when largely diluted with water or soda-water, and the custom nowadays is rapidly growing only to take a sufficient quantity to give a taste to the water. Sherry and champagne usually disagree after a short time, and the wine which is the most palatable and the best to drink ordinarily is a light claret or burgundy.

DRESS.

Dress is an important subject for consideration since a large percentage of the diseases contracted in India result either from a chill or the heat. Men and women are apparently indifferent about their clothing and either neglect or are ignorant of the fact that extremes of heat and cold, which are often experienced in one day, ought to be avoided. It is by no means rare to see some of them, after indulging in active exercise, during which time the body is greatly heated, loiter about encountering the cold air, without covering themselves with any extra clothing.

The object of clothing is to protect the body against cold and heat, and flannel is the one material which possesses this property; but as flannel is both heavy and irritating to the skin a mixture of flannel and either silk or cotton is more suitable. This material, from its slowness in conducting heat *to* and *from* the body, preserves a steady equilibrium, and should be worn both winter and summer. It is also important to keep the feet dry, especially to those who are debilitated by climatic influences, consequently woollen socks should be worn all the year round. A kummerband should be worn at

night time by those who are in the habit of sleeping under a punkah, for it frequently happens that the attendant omits to pull the fan. The sleeper awakes, bathed in perspiration, and commences to remonstrate with the punkah coolie, who immediately pulls with increased energy, with the result that a chill is inevitable, unless the sleeper is sufficiently protected. Ladies, in the privacy of their own circles, should remove their stays, which are from the tight lacing likely to interfere with the free and full expansion of the chest. Garters should not be used since they impede the circulation, and hinder the return of the blood from the lower extremities. The "combination" under linen is recommended, as it avoids the necessity of having tight bands around the waist. Hats should be large enough to protect the temples and the nape of the neck, and of sufficient thickness to resist the rays of the sun.

BATHS.

Baths are employed for purposes of cleanliness, the preservation of health, and the treatment of disease. They are of varied kinds and may be classified into :

- | | |
|------------------|------------------------|
| a. Water baths | } Simple or medicated. |
| b. Vapour baths | |
| c. Hot-air baths | |

Water baths may be cold, tepid, warm, or hot.

The temperature of a cold bath is equivalent to the temperature of the air.

The temperature of a tepid bath is equivalent to 85° — 92° .

The temperature of a warm bath is equivalent to 92° — 98° .

The temperature of a hot bath is equivalent to 98° — 105° .

Cold baths are bracing and strengthening to young persons with strong and robust constitutions but are a source of great danger to those whose internal organs are congested, to the intemperate, to the dissipated, and to those who have suffered with malaria or dysentery. It is a popular error to think that the body should be allowed to cool before using the cold bath, for the very opposite rule is the correct one. Cold baths are powerful agents in the reduction of a high temperature resulting from fever or sunstroke.

Tepid baths should be used by those who have a weak circulation or a tendency to apoplexy.

Warm and hot baths are refreshing after

fatigue, and conducive to health by cleansing the skin from all impurities. They are useful in cases of restlessness and nervous irritation.

Vapour, hot-air, and medicated baths are beneficial in many skin and other diseases.

The acid bath, made by adding one ounce of nitro-muriatic acid to one gallon of water, is invaluable in chronic diseases of the liver. It should always be used in a wooden tub.

Wet-sheet packing is a very efficacious method of reducing the temperature of fever. The invalid being stripped is enveloped in a sheet previously soaked in cold or tepid water and wrung out fairly dry; he is then wrapped up in a blanket and allowed to remain in this condition for half an hour or even longer, when the blanket and sheet should be removed and the invalid's body and limbs quickly and thoroughly dried. The packing should be repeated as often as the urgency of the symptoms requires it. This method of treatment is also of marked benefit in acute rheumatism and the summer diarrhoea of children.

Bathing interferes with digestion, so baths should be given two hours *after* a meal, and the morning time is preferable to the evening.

SLEEP.

Sleep in proper amount is necessary for health, and the habit of going to bed at a regular hour and so inviting sleep is to be commended. During the hot season in the plains the early morning is the coolest and consequently the best time to benefit by a sound and refreshing sleep, and the sooner the custom of transacting the greater part of the day's work during those hours is abandoned, the better it will be for the general health. As, however, the majority of Anglo-Indians are early risers it becomes necessary to consider the inevitable. The candle of health cannot be burnt at both ends at the same time without doing serious mischief, and seven hours is the shortest time which should be devoted to sleep, so if the hour of getting up is five bedtime should be ten o'clock. A midday siesta, provided it does not follow immediately on a heavy meal, is beneficial but should not exceed one hour. It should not be a pretence of going to bed by taking a nap on the sofa or in an armchair, but a man should undress himself, put on his night apparel, and actually go to bed. If, from either work or pleasure, the night's rest is likely to be disturbed or curtailed, it is a wise plan to take

a sleep in the afternoon, so as to lay up a stock of strength to resist the coming fatigue.

OCCUPATION.

Occupation is seldom a matter of choice, since most Anglo-Indians hold official positions, but there is little doubt that the climate of India is relaxing, and requires a free indulgence in pursuits of an active nature. Those whose habits are usually sedentary, should indulge in horse-riding, and if possessing the energy of youth should play tennis, racquets, polo, cricket, and other outdoor games daily ; nor should they give way to the far too customary habit of reclining on sofas and lounging about listlessly in armchairs. Whilst the man is attending to his official duties the lady can look after the household, in exactly the same manner as she would do in England, and neither the one nor the other should neglect to take a regular "constitutional" every day of their lives. The secret of good health in India is to find occupation both for the mind and body, for without it the nerve powers are impaired and the constitution is destroyed.

SMOKING.

Smoking is a habit and a bad one too. In moderation it is said to exert a soothing influence on the nervous system, but this is only a temporary result, for ultimately it has a contrary effect, rendering the nervous system, feeble and irritable. In excess it causes severe dyspepsia, disturbs the action of the heart, increases the number of respirations, dims the power of vision, weakens the memory, impairs the sense of hearing, vitiates the taste, destroys the brain power, poisons the constitution, and produces a general depression. Tobacco seriously affects the generative power in man, which in a great measure accounts for the indifference evinced by confirmed smokers for the society of the opposite sex.

Epilepsy, paralysis, and insanity have been traced to the use of this drug.

The idea that smoking is a disinfectant and a preventive of fever is erroneous.

The treatment of any of the symptoms which are produced by excessive smoking consists in total abstinence from tobacco. Ten drops of tincture of nux vomica in a little water taken three times a day is reputed to diminish the craving for smoking. A pill consisting of one

fiftieth of a grain of phosphorus, three grains of reduced iron, half a grain of quinine, and a fortieth of a grain of strychnine, given with meals three times a day, will restore manly vigour to the invalid.

THE EFFECT OF HEAT.

Heat increases the action of the skin, which is an effort on the part of nature to enable the Anglo-Indian to preserve his own natural temperature, for the more heat formed, and the hotter the surrounding air, the greater the evaporation.

The heat, acting through the nervous system, causes the blood-vessels to relax and to bring a larger amount of blood to the surface, favouring increased perspiration, which, evaporating, cools the blood, the effect of evaporation being cold ; consequently the temperature of the body should be of a constant height.

The excessive activity of the skin relieves the lungs and kidneys of the greater part of their ordinary work, and disturbs the balance of functions between these organs, giving rise to an inertia from which it is difficult to awaken them for the performance of the duties which on a change from a hot to a cooler atmosphere, they are called upon to perform.

Heat, however, causes the atmosphere to be rarefied, so less oxygen is taken into the lungs at each inspiration, and this insufficiency, from its inadequacy to remove all the carbon, leaves the blood in an imperfectly aerated and impure condition, thereby ultimately impairing the functions of the lungs, heart, brain, liver, kidneys, and spleen, and even originating organic disease.

TATTIES.

Tatties are mats made of khuskus fibre, and are placed in front of open doors and windows, and being kept constantly wet, cool the air which passes through them, provided the wind is in the right direction; but as this cannot always be relied upon, thermantidotes have been constructed, by which cool air is pumped into the room.

In large rooms this artificial cooling of the air is beneficial, but in small rooms, in which it is difficult to avoid the direct draught, there is always danger of contracting rheumatism and fever. It is unwise at any time to sleep in front of a thermantidote, as the cool air, acting on an overheated body, is likely to produce a chill, and cause congestion of one or more of the internal organs.

MEDICINES.

The doses of medicine are graduated according to age.

The correct scale is as follows :

For an adult,	suppose the dose is	1	or gr. 60.
Under 20 years,	the dose should be	$\frac{2}{3}$	or gr. 40.
„ 14	„ „	$\frac{1}{2}$	„ 30.
„ 7	„ „	$\frac{1}{3}$	„ 20.
„ 4	„ „	$\frac{1}{4}$	„ 15.
„ 3	„ „	$\frac{1}{6}$	„ 10.
„ 2	„ „	$\frac{1}{8}$	„ $7\frac{1}{2}$.
„ 1	„ „	$\frac{1}{12}$	„ 5.

Above 60 years the dose should be diminished in the inverse gradation of the above.

Certain persons possess an idiosyncrasy against particular drugs, in which case these remedies should be avoided. The less medicine taken the better, and when a disease runs a favorable course without drugs it is folly to prescribe them.

Women, especially during menstruation, pregnancy, and lactation are more sensitive to the influence of medicine than men, and consequently require smaller doses. Children usually bear opium badly, hence the dose must be reduced to a greater extent.

ABBREVIATIONS.

Abbrevi- ation.	Latin.	English.	In pre- scription.
gr. =	gratum	= grain	= gr.
min. =	minimum	= minim or drop	= m
dr. =	drachma	= drachm	= ʒ
fl. dr. =	fluid drachma	= fluid drachm	= fl. ʒ
oz. =	uncia	= ounce	= ʒ
fl. oz. =	fluid uncia	= fluid ounce	= fl. ʒ
oct. =	octarius	= pint	= O.
cong. =	congius	= gallon	= C.
lb. =	libra	= pound	= lb.

MEASURES.

60 minims or drops are equivalent to 1 fl. ʒ
 8 fluid drachms ,, ,, 1 fl. ʒ
 20 fluid ounces ,, ,, 1 O.
 8 pints ,, ,, 1 C.

60 grains are equivalent to 1 ʒ
 .8 drachms ,, ,, 1 ʒ
 16 ounces ,, ,, 1 lb.

1 m is equivalent to 1 drop.
 1 fl. ʒ ,, 1 teaspoonful.
 2 fl. ʒ ,, 1 dessertspoonful.
 4 fl. ʒ (ʒss) are equivalent to 1 tablespoonful.
 1 ʒ is equivalent to 2 ,,

A graduated measure glass should always be

used, for some tea-, dessert-, and table-spoons hold twice as much as others.

A graduated minim or drop measure is also necessary since drops of different medicines vary in size and weight.

PRICKLY HEAT.

Prickly heat is due to an inflammation of the sweat-glands of the skin. The incessant itching and pricking are most trying, and scratching and rubbing invariably aggravate the disease. It is popularly supposed to be a sign of health, but in reality it is only an indication that the skin, which in fever is usually hot and dry, is acting freely.

Prevention may be said to be the only cure. All hot or iced drinks should be avoided. Soup, tea and coffee should be allowed to cool, and aerated waters should be made cool only by being immersed in a ghurra of water. After any bodily exertion—racquets, tennis or cricket—an interval of at least five minutes should be allowed to elapse before drinking, to permit the heated body to cool.

To allay the itching sponge the part with calcaline lotion, or dust it thickly with violet powder, fuller's earth, or oxide of zinc powder.

A lotion of sulphate of copper, of the strength of two grains to the ounce, is often beneficial, but should there be much inflammation from scratching or rubbing, goulard water or lime-water applied on a piece of soft rag and kept constantly moist will give most relief. Rain-water is considered by native servants to act as a charm, but experience has shown this idea to be a fallacy.

BOILS.

Boils may occur singly or in crops, and are most common during the rains, indicating a disturbance of health.

In the very early stage painting them repeatedly with iodine does good, but later on they should be poulticed with *small, dry, hot* poultices of linseed meal. In order to make a poultice dry, squeeze out as much water as possible and then envelope the poultice in a double layer of rag, so that the meal is not in contact with the skin. A moist poultice invariably brings out a crop of smaller boils, and, as it is only the heat which is required to bring the boil to a head, a dry poultice ensures the desired result.

The bowels should be carefully regulated either by a teaspoonful of equal parts of sulphur and treacle every morning and evening, or by a

dose of fruit salt daily, and the general health should be improved by taking five drops of Fowler's solution of arsenic in a little water twice a day after meals. Should the pain be very acute, a deep puncture, which is quite painless if performed under a local anæsthetic of ether, will afford immediate relief.

A change to the hills is always beneficial and often necessary.

ABSCESS.

Abscesses are often prevalent during the rains, and frequently result from boils. They do not usually come to a head, are very indolent in their action, intensely painful, and indicate an impoverished condition of the blood.

The evacuation of the matter is the only orthodox method of treatment, and much suffering can be avoided by an early, free, and deep incision, which not only affords an easy exit for the matter, but relieves the tension in the surrounding structures. Hot linseed meal poultices should be constantly applied. The bowels should be well moved either by a Seidlitz powder, a black draught, or a good dose of fruit salt. The general health should be improved by taking one teaspoonful of Fellowes's

syrup in a wineglass of water three times a day. Should the bowels be persistently confined, a tonic of five grains of citrate of iron and ammonia, with twenty grains of sulphate of magnesia in an ounce of peppermint water, should be substituted for the syrup.

The sleeplessness consequent on the pain should be treated by ten to fifteen drops of laudanum in an ounce of flavoured water, given at bedtime and repeated, if necessary, in three hours. A draught of twenty grains of hydrate of chloral, in combination with fifteen grains of bromide of potassium in an ounce of camphor water, frequently gives greater relief than the opium, and occasionally a teaspoonful of tincture of henbane, or tincture of hops in an ounce of orange-flower water acts as a useful sedative.

CARBUNCLE.

A carbuncle is a boil on a larger scale. It is a red, hard, flattened circular swelling, from which the matter escapes at several points. It is usually attended with severe pain and great debility, and in elderly persons is generally fatal. It is more common amongst natives and Eurasians than Europeans.

The disease being severe the treatment must be heroic.

A free crucial incision is necessary, after which stimulating poultices of yeast or carrots should be applied. Should the discharge be offensive, a poultice of linseed meal covered with a thick layer of powdered charcoal should be substituted.

The bowels should in the first instance be freely opened by five to ten grains of calomel, followed by a black draught.

A nourishing diet, with plenty of milk and tonics of quinine or ammonia and bark, are necessary to support the strength, whilst ten grains of Dover's powder, or a pill of half to one grain of opium every three or four hours, will help to allay the pain, produce sleep, and calm the patient.

Should the patient object to the free incision, a piece of caustic may be rubbed into the carbuncle until an eschar is formed, which should then be covered for twelve hours with an opium plaster, before the poulticing commences. This plan is in reality more painful than the use of the knife, which ought only to inflict momentary pain.

SNAKE-BITE.

Bites by venomous snakes are comparatively rare amongst Europeans; they seldom draw

blood, and the marks are nearly imperceptible and rarely exceed two in number. Should the wound exhibit more than two punctures, and in two parallel lines, it may be taken for granted the snake was harmless, as poisonous snakes have only one row of teeth on each side of the upper jaw, while the harmless have two.

The symptoms are : Severe pain around the wound, redness, swelling, difficulty of breathing, faintness, vomiting, cold sweats, jaundice, great shock, insensibility, with sometimes convulsions, delirium, and death.

The treatment consists in first fastening a bandage or cord tightly a few inches *above* the part bitten, which should be sucked freely and perseveringly. There is not any danger in doing this, provided there is no abrasion on the lips or tongue. The bitten part should then be excised, and allowed to bleed freely, or be burnt with a hot iron, nitric acid, strong liquor ammoniæ or caustic, and subsequently either poulticed or dressed with carbolic oil (1—40). A teaspoonful of sal volatile in a wineglass of water should be administered every ten minutes or a quarter of an hour, and strong black coffee freely given. The patient should be kept walking about, and on no account should be allowed to go to sleep for at least twenty-four hours from the time he was bitten.

SCORPION-BITE.

A scorpion-bite causes intense pain, swelling, and a sensation of numbness, accompanied with vomiting and nervous prostration. The wound should be scarified and then fomented with warm water to encourage the bleeding. A poultice of ipecacuanha powder will often relieve the pain in a few minutes, or the wound should be dressed with equal parts of sal volatile, laudanum, and oil. Kerosine oil is considered to have a specific effect, but salad oil will do equally well. The nervous shock should be treated by a teaspoonful of sal volatile in a little water every quarter of an hour at first, but less often as the patient shows signs of recovery. Lime-juice, a weak solution of sal volatile, salt, tobacco-juice, treacle, and especially an onion poultice, are all deservedly popular remedies.

MOSQUITO-BITES.

Mosquito-bites are a source of great annoyance, and attended with a high degree of itching and inflammation, so much so that it is nearly an impossibility to refrain from scratching. The treatment consists of bathing the

bites with a weak solution of sal volatile to allay the itching, with the addition of a little laudanum to relieve the pain. Should the bites be much inflamed goulard water should be substituted for the sal volatile.

A thoroughly reliable preventive is to rub kerosine oil into all the exposed parts of the body, *i. e.* the face and neck, the hands and wrists, and the feet and ankles, but this will not prevent the annoyance occasioned by the buzzing. There is only one remedy for this, which is to keep the mosquitoes away.

It may not be generally known that mosquitoes naturally feed on the juice of plants, though it is more than probable there now exists a species who live solely on animal or human food. During the day they take refuge from the heat of the sun in the houses, but in the cool of the evening, when it is customary to open all the doors and windows, they swarm out to find nourishment, and having satisfied their hunger return to the houses; but, if before their return, the "chicks," which most Indian houses possess, be lowered, they are unable to gain admittance. With proper care there ought not to be a single mosquito in the room—and the same is applicable to a tent—at night-time. Ten minutes should be allowed for the egress of the mosquitoes.

The popular belief that it is injurious to allow creepers to grow up the house is incorrect as they serve to attract the insects from within.

The treatment of the bites or stings of centipedes, gnats, hornets, sandflies, spiders, wasps, &c., is similar to that for mosquito-bites.

GUINEA-WORM.

The guinea-worm usually attacks the lower extremities, since they are most exposed, and the first indication of its presence is ushered in with a feeling of irritation in the affected part, after which a small boil with a black centre appears, through which the worm protrudes. Occasionally the appearance of the worm is accompanied with feverishness, nausea, and vomiting. The treatment consists in the extraction of the worm, and the best method is to wind it gently round a stick until the whole is withdrawn. Great care must be exercised not to break the worm, and not more than one or two turns should be taken daily. Natives believe that asafoetida will destroy the worm, so thirty drops of the tincture may be taken either in a capsule or else mixed with mucilage three times a day, but the taste of this medicine is nauseous, and the benefit not proved by experience.

DYSPEPSIA.

Dyspepsia may be a simple derangement of the functions of digestion, or may result from a change in the structure of the digestive organs.

A short description of the processes which food undergoes will simplify the understanding of those defects which constitute dyspepsia.

The food is masticated by the teeth into a pulp, and covered with the spittle which is secreted by the salivary glands until it forms a mass ready to be swallowed, which then passes into the gullet and is propelled onwards by muscular contraction into the stomach, in which organ it is mixed with the gastric juice—a juice which principally consists of water, hydrochloric acid, and a small quantity of a peculiar principle called pepsin. In the stomach, by the action of its juices, the food-mass is reduced to the consistence of pea-soup, and in this state passes into the small intestines, where it meets with the various secretions from the liver, sweetbread, and intestinal glands.

Any interference with the secretions or any derangement of the digestive organs give rise to dyspepsia.

The causes of indigestion are many and vari-

able, but some of the more common are :—Imperfect mastication ; the habit of eating in a hurry ; the too frequent repetition of meals ; errors in diet ; excessive smoking ; dissipation ; over-fatigue ; mental worry and anxiety ; a chill, frequently the result of drinking an iced beverage when the body is greatly heated ; an immoderate indulgence in spirituous liquors ; a deficiency in the quality or quantity of the gastric juice ; impaired nutrition of the structures of the stomach, restricting the “ churning ” of the food, which consequently passes incompletely digested into the small intestines ; and any derangement or disease of the organs whose secretions assist digestion.

Many other causes of dyspepsia could be enumerated, but a longer list would probably confuse rather than simplify the explanation of this disease.

The symptoms depend in a great measure on the cause and are almost numberless, but the most frequent are :—Loss of appetite, with weight, pain, and fulness over the stomach ; a large flabby tongue, sometimes furred, at other times clean, and often indented at the sides ; heartburn ; acidity ; constipation ; flatulence ; eructations ; nausea ; vomiting ; palpitation ; headache ; giddiness ; specks before the eyes ; a feeling of repletion or a sensation of emptiness

with a craving for food ; irritability of temper, and depression of spirits.

The treatment lies in the removal of the cause. This is not always practicable, but in far the larger number of cases a careful attention to the natural laws of health will effect a cure. The teeth should be in good order, to enable the invalid to well masticate the food, which should be eaten at regular hours and with systematic deliberation. The loss of the "grinders" should be remedied by artificial teeth. During meals all work should be put on one side, and ample time allowed for digestion. It should be remembered that a small amount of food eaten leisurely and well masticated is more nourishing than a larger quantity which has been bolted. Moderate exercise and well-ventilated rooms materially assist the action of the digestive organs. Between any two meals an interval of four or five hours should be allowed to elapse, to permit the first to be thoroughly digested and removed from the stomach before the second is introduced. Diet is an important consideration in the treatment of dyspepsia. Wholesome, plain and digestible food should be eaten. Tea, coffee, cocoa, all hot and iced drinks should be prohibited and spirituous liquor discountenanced. If the invalid will *insist* on taking "a little

wine and water," sound claret is the best. Beer, spirits, sherry, and champagne are decidedly bad for a weak digestion. Aerated waters and too much fluid of any kind are hurtful. Soups should only be taken sparingly. The lighter varieties of fish, *i. e.* soles, whiting, plaice, &c., are permissible. Of the different kinds of meat, mutton and roast beef are the most digestible. Boiled meats are more digestible than roasted, for in roasting the action of the heat produces fatty acids, which interfere with digestion. Baked and fried meats are for the same reason even more indigestible. Poultry and game are naturally digestible, but owing to the artificial fattening process which they undergo are not a safe food for an invalid. Vegetables, such as greens, spinach, lettuce, and cress are fairly digestible; potatoes should be well boiled or mashed. Light puddings of rice, sago, tapioca, corn-flour, and arrowroot are permissible, but pastry is unwholesome. Stale bread only should be eaten, and the quantity of butter should be limited. Oatmeal porridge for breakfast, and marmalade as a substitute for butter, are useful, especially if there is a tendency to constipation. Fruit, which is best cooked, may be eaten in moderation before noon, but the pips, skin, stones, and cores should be carefully avoided.

A tumbler of hot water should be taken before going to bed, with a view of washing out the contents of the stomach, and promoting a sound and refreshing sleep.

The medicinal treatment aims at the restoration of the impaired functions of the digestive organs, and the alleviation of distressing symptoms.

The deficiency, of hydrochloric acid in the gastric juice should be remedied by taking fifteen drops of dilute hydrochloric acid in half a wineglass of water at meal-times.

A diminution of the contractile movements of the stomach, whereby the food is insufficiently acted upon by the gastric juice, should be treated by ten drops of tincture of nux vomica, in combination with ten drops of dilute nitro-muriatic acid, in an ounce of flavoured water, given three times a day after food, and perseveringly continued for several weeks or even months.

The appetite should be improved by one-grain doses of quinine, dissolved in a few drops of dilute sulphuric acid, in an ounce of infusion of quassia, gentian or chiretta, taken an hour before meals. The flatulence may be temporarily relieved by a carminative draught, containing ten drops of compound tincture of cardamoms, ten drops of sal volatile, ten drops of tincture of

ginger in half a wineglass of peppermint water. Should the bowels be confined, the addition of a teaspoonful of tincture of rhubarb will add to the efficacy of this remedy.

The "rotten egg" taste in the mouth, due to the eructation of sulphuretted hydrogen from the decomposition of the food is generally removed by taking a teaspoonful of powdered charcoal mixed thoroughly so as to get rid of all grittiness, in half a wineglass of water at each meal. Heartburn and acidity should be corrected by fifteen drops of the liquor of the citrate of bismuth and ammonia, in an ounce of water; in slight cases twenty grains of bicarbonate of soda, or one or two of Wyeth's soda tablets, will afford relief. Water-brash should be remedied by taking a third of or half a tumbler of Hunyadi Janos water on an empty stomach in the early morning; but should this fail, twenty grains of compound kino powder will often cure it.

Palpitation of the heart, a symptom which unnecessarily alarms the invalid, is frequently the result of long-standing constipation, excessive spirit drinking, or too much smoking. The last two causes should be easily corrected, but the first is for the most part troublesome, and needs a special course of treatment (*vide* Constipation). Fifteen to twenty grains of bi-

carbonate of soda, with a teaspoonful of compound tincture of cardamoms in an ounce of decoction of taraxacum, will temporarily relieve this distressing symptom.

The headache of indigestion is for the most part dependent on an insufficient supply of bile (*vide* Sluggish Liver) and requires persistent treatment for that complaint.

The specks before the eyes are due to disturbance of the action of the liver, and two grains of calomel with five grains of compound rhubarb pill at bed-time should clear them away.

CONSTIPATION.

Constipation is an indefinite term, for whilst one person considers the bowels act regularly when they are moved once in every two or three days, another is only satisfied with a daily evacuation. A regular action of the bowels should always take place in health every day, and any deviation from this rule constitutes constipation.

Constipation may be either occasional or habitual. In the former case a dose of fruit salt, effervescent citrate of magnesia, Epsom salts, a Seidlitz powder, castor-oil, Gregory's

powder, or a black draught, will give speedy relief, but in the latter case only a systematic course of treatment will prove beneficial.

Habitual constipation may be a symptom of a disease or its cause. It may be dependent on a bad habit, an excessive use of aperient medicines, an insufficiency of bile, or a loss of power in the bowels.

The bad habit should be corrected by seeking relief daily at a stated time, and habituating the bowels to act with regularity. The excessive use of aperient medicines can only be checked by judicious dieting, and the removal of the need for them.

The insufficiency of bile is usually the result of some liver disorder, which requires appropriate treatment. The loss of power is produced by a want of tone in the muscular and elastic coats of the bowel, or from over-distension from flatulence.

The treatment consists of the daily use of enemata, either simple or medicated. A pill containing two grains of extract of socotrine aloes, with a quarter of a grain of extract of belladonna and a quarter of a grain of extract of nux vomica, should be given night and morning (*vide* Chronic Constipation, p. 135).

DIARRHŒA.

Diarrhœa may be either a disease in itself, or a symptom of a disease. The causes of simple diarrhœa are numerous, but over-eating, improper food, and constipation are the most constant. The fever of the country is often accompanied with diarrhœa, but this is usually an effort of nature to purge the system of the fever. During the monsoon months, and on first arrival at a hill station from the plains, the bowels are frequently loose, but the relaxation is the result of congestion of the liver and bile-duct. In addition to the purging, nausea, and even vomiting, colicky pains, flatulence, eructations, and foul breath are often present.

The treatment manifestly depends on the cause, for in many cases to attempt to check the diarrhœa would only tend to aggravate the disease. When the purging is the result of irritation from the presence of undigested food, or of an accumulation in the bowel, the expulsion of the offending substance is necessary, and is best achieved by a teaspoonful of Gregory's powder, in combination with five grains of compound scammony powder, and by an ordinary aperient pill, followed on the next morning by a Seidlitz powder. Should there

be any colicky pains, an ounce of castor-oil combined with ten drops of laudanum will give effectual relief. Should the diarrhœa be scanty and frequent, a large injection of soap and warm water, or of gruel, to which may be added fifteen drops of laudanum, will often prove more beneficial than any medicine given by the mouth.

The sympathetic diarrhœa of fever should not be indiscriminately restrained unless the constant drain has considerably weakened the invalid, in which case fifteen drops of dilute sulphuric acid combined with five drops of laudanum in an ounce of cinnamon water may be given every two, three, or four hours. A teaspoonful of Bragg's vegetable charcoal in a wineglass of water, taken every morning and evening, will remove flatulence, and twenty grains of bismuth will correct the acidity of the eructations. Should the invalid have suffered from previous malarial fever five grains of quinine, together with ten grains of Dover's powder, should be given twice a day.

During convalescence a teaspoonful of Fellowes' syrup in half a wineglass of water or a quinine and iron tonic should be given three times a day.

HILL DIARRHŒA.

Hill diarrhœa is due to an increased flow of bile, the result of a change from a hot to a cooler climate. Although heat in the first instance stimulates the action of the liver and promotes the flow of bile, the increased activity leads secondarily from over-exertion and fatigue to a sluggishness of that organ and a consequent diminution in the flow of bile. The cool atmosphere in turn re-invigorates the functions of the liver and causes a corresponding increase in the secretion of the bile, which, being by nature an aperient, produces diarrhœa.

The symptoms are : looseness in the bowels, usually with canary-coloured, watery, and foetid evacuations ; nausea and vomiting ; slight jaundice ; loss of appetite ; irritability of temper ; depression of spirits ; loss of flesh ; and general malaise.

The treatment should be passive, and the diarrhœa, unless excessive, should not at first be checked. When it is considered necessary to stop it, two grains of calomel with five grains of Dover's powder should be given night and morning for a few days and then twenty grains of sulphate of magnesia, combined with ten grains of bicarbonate of soda, five grains of

carbonate of magnesia and a teaspoonful of tincture of rhubarb, in an ounce of cinnamon or peppermint water, should be taken twice a day. In severe cases the addition of five drops of laudanum to each dose of the medicine is beneficial.

“Monsoon diarrhœa” is similar to hill diarrhœa, and the treatment is the same.

COLIC.

Colic is a painful spasmodic contraction of the muscles which form one of the coats of the bowel, and may be due to exposure to a chill, irritation from undigested food, constipation, or obstruction in the bowel. It is also a symptom of reflex irritation.

The symptoms are severe, griping, twisting pain about the navel and abdomen, which usually comes on suddenly, shifts its position, and is relieved by pressure. Nausea, vomiting, and faintness are often present. The treatment consists in the removal of any irritation by a tablespoonful of castor-oil to which ten drops of laudanum may be added with advantage. Hot fomentations or turpentine stupes should be applied to the abdomen, and should the stomach be loaded an emetic of thirty grains of

sulphate of zinc in warm water should be given at the onset of the treatment. In severe cases a large enema of two pints of soap and water, or an enema of castor-oil or turpentine, should be given to thoroughly wash out the lower part of the bowel, and a draught of five to ten drops of laudanum in an ounce of peppermint water should be taken to relieve the pain and check the spasm.

Attention to the general health and careful dieting should prevent a recurrence of an attack. A diffusible stimulant of ten drops of sal volatile, ten drops of spirits of chloroform, and ten drops of compound tincture of cardamoms in an ounce of peppermint water should be taken every six hours for a few days.

DYSENTERY.

Dysentery is a specific febrile disease, characterised by an inflammation and ulceration of the lining membranes of a portion of the bowel, attended with constitutional disturbance. Some authorities consider dysenteric poison to have a malarial origin, but it is more probable that there is a distinct poison peculiar to the disease, just as there is a special poison which produces cholera. This poison requires a high temperature and a certain amount of moisture with

other favorable conditions for its development, and it is only by infection with this poison that dysentery can be caused, though wet and cold, fatigue, mental depression, intemperance, unwholesome diet, impure water, malarial fever, and diseases of the internal organs, &c., predispose an invalid to contract the disease.

The symptoms usually commence with disordered digestion, loss of appetite, thirst, colicky pains, looseness of the bowels, feverishness, nervous depression, and prostration. The purging increases, and the griping pain, which accompanies it becomes more severe; blood and slime appear in the evacuations, which are passed with great difficulty and straining; and the invalid experiences a sensation of something remaining in the bowel which ought to be discharged. After a time the evacuations, consisting only of mucus, blood, or a few shreds of lymph, succeed each other at short intervals and are attended with severe colic and violent bearing-down pain. The prostration and mental depression become greater and delirium frequently sets in.

In favorable cases the symptoms gradually subside, the evacuations are less frequent, the griping pain and straining are less severe, the mind grows clearer, and the invalid slowly regains his strength. Constipation from con-

traction of the cicatrices of the ulcers is often a very troublesome resulting complication.

In fatal cases the delirium increases, the evacuations are passed involuntarily, coma comes on, and death ensues from general paralysis.

The treatment of acute dysentery necessarily varies according to the character of the type of the disease.

Should the big bowel be loaded it is requisite to take steps to secure a complete evacuation of the accumulation, and this may be effectually accomplished by the administration of a dessert-spoonful of castor-oil with the addition of ten drops of laudanum. A better plan, however, is to give a large enema of from three to six pints of *lukewarm* water to thoroughly empty the bowel and this should be repeated as often as may be necessary.

Ipecacuanha, though a disagreeable remedy, is of the highest value in dysentery, but its efficacy depends in a great measure on its proper administration. The invalid must be kept in the recumbent posture with the head quite low. A mustard plaster should be applied to the pit of the stomach and all fluids should be avoided for at least three hours, the thirst being quenched by sucking small lumps of ice. Twenty, thirty, or even sixty grains of ipecacuanha should be

given either as a bolus or else suspended in syrup and water, morning and evening, but should be discontinued as soon as the dysenteric character of the evacuations has ceased. Should the ipecacuanha be rejected the dose should be repeated an hour later and it may be advisable to give twenty to thirty drops of laudanum half an hour before the ipecacuanha to allay the irritability of the stomach. Opium, however, should be given as sparingly as possible, for although it restrains the peristaltic action of the bowel it is likely to completely mask the true course of the disease and lead to serious error. The discomfiture caused by the nausea, retching, and even vomiting, is only temporary and soon passes away, allowing ample time for the absorption and digestion of food before it is necessary to give another dose of the ipecacuanha.

The subsequent treatment consists in giving forty grains of aromatic chalk powder in combination with a teaspoonful of tincture of catechu in half a wineglass of cinnamon water every three hours until the looseness of the bowels has been checked.

The diet should be fluid and nutritious and alcohol strictly forbidden.

If the disease be associated with malaria the use of quinine is indicated.

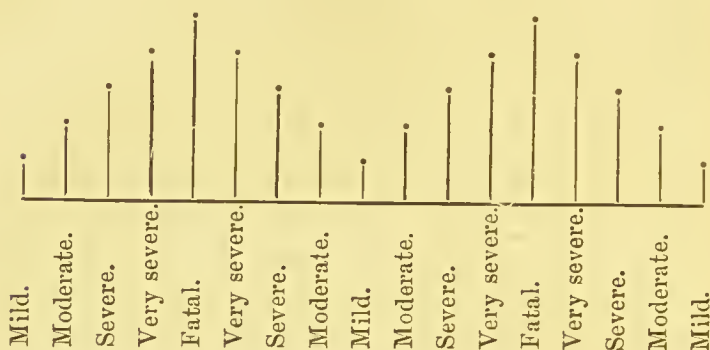
CHOLERA.

Cholera is usually preceded by simple diarrhoea, but sometimes develops itself without any warning.

The symptoms are: copious vomiting and purging; rice-water evacuations; cramps in the extremities and abdomen; insatiable thirst; coldness of limbs; blueness of lips and skin; pinched features; sunken eyeballs; suppression of urine and collapse. Notwithstanding the coldness of the surface, the patient complains of a feeling of oppression, and becoming restless tries to throw off the bed-clothes. The intellect usually remains clear throughout the disease, but in severe and invariably in fatal cases, brain symptoms are developed.

The treatment of cholera is unsatisfactory as science has not yet been able to discover the *cause* of the disease. Many medicines have gained a high reputation during one epidemic only to be found valueless during the next, but the explanation is that the wave of cholera reaches a maximum point of intensity and then begins to decline. The nearer the cases approach this maximum point the greater the fatality, and the further distant from it the greater the percentage of recoveries. There

may, however, be a series of maximum points so that the fatality of the disease may rise and fall. The following diagram will illustrate this :—



Some cases do terminate fatally which are not within the “fatal zone” owing to the patient’s weakened constitution and other causes, one of the most common of which is opium-poisoning. As the majority, therefore, of the cases which occur before the cholera has reached or after it has passed the “fatal zone” recover, no matter whether the medicine be castor-oil, calomel, or sulphur, and that these same medicines fail to do any good during the period of mortality, it may reasonably be maintained that no appreciable benefit follows the administration of any one drug in particular. In short, the disease in itself is not influenced by any medicine, though drugs may be bene-

ficial in supporting the strength, allaying the nervous fear, relieving the pain and mitigating the severity of the symptoms.

It is possible that there is nothing special about cholera, and that it is only an aggravated and severe form of a simple disease, influenced by the atmosphere and climate; but it is more probable that there is a specific cholera poison—not malaria—which under favorable conditions develops the disease. The question, however, whether the cholera poison be a “comma bacillus” which germinates in water, or some other species as yet undiscovered, is of interest only to scientific men, though there is little doubt that the wind and air help to propagate the disease, and the proof of this assertion is established by the fact that birds always desert a locality several days prior to the advent of cholera.

A night’s debauch, a fit of intoxication, fatigue of any kind, the eating of unwholesome meat or unripe fruit, will favour the development of the disease, though they do not actually produce it; consequently in times of cholera it is important to pay particular attention to the general health, avoiding all excesses and restricting the diet to simple and plain food. Assuming the theory of the existence of a specific cholera poison to be correct, it is not

difficult to understand the reason of a strong and apparently healthy man being suddenly prostrated by the disease. The poison is present in the system, but inert ; any act of over-exertion weakening the resisting power of the constitution, or an error in diet causing irritation, will originate those conditions which are necessary for its development.

In by far the majority of cases, cholera begins with a premonitory attack of diarrhœa, or else the patient has been ailing with "liver," an indefinite term which covers a multitude of diseases, so it is advisable either on the appearance of diarrhœa to take most rigorous measures to check it, or, when the general health is below par, to restore it to its proper condition. With a just regard to sanitation, and due care of one's health, the prevention of cholera is quite simple, but to be doubly guarded everyone should take, in times of cholera, ten drops of dilute sulphuric acid in a wineglass of cold water, morning and evening, and avoid indigestible food.

Although it has been admitted that medicine is useless as a remedy when once the disease has gained a firm hold, yet there is no doubt that drugs can and do mitigate the severity of the symptoms.

As soon as the patient has been seized with

cholera, an ounce of castor-oil with thirty to forty drops of laudanum should be administered, and no more opium should be given during the attack, and even during convalescence great caution should be exercised, as a small dose of fifteen drops of laudanum has been known to prove fatal. The administration of opium is a matter for serious consideration, and it may be laid down as a golden rule *that one and only one* dose should be given, and that one at the commencement of the disease, because, when once cholera is established, absorption is so impaired, if not altogether retarded, that the opium accumulates, and when the patient begins to recover, and the power of digestion is regained, the whole amount of the opium taken acts as an over-dose, frequently causing death; in fact the rate of mortality from cholera is more than doubled by opium poisoning.

The cramps are best relieved by friction either with salad oil or a paste composed of a teaspoonful of mustard and eight tablespoonfuls of flour with a sufficient quantity of water. The friction should be *constant*, and applied with a uniform pressure, and as an attendant cannot rub properly for more than four or five minutes without a rest, there should always be a double set of attendants, the one ready to relieve the other. When the cramps are very

severe, and friction fails to give relief, hot baths at a temperature of 100° to 105° F. should be tried. The addition of two to four pounds of common soda is said to increase the efficacy of the baths. The body should be kept warm with hot blankets and water-bottles.

The suppression of urine is a symptom of the disease ; and treatment is of little if any benefit. It is a valuable guide as to the probable result, for, as soon as the action of the kidneys is restored, recovery may be expected. Warm fomentations and even weak mustard poultices should be applied over the regions of the kidneys, as they cannot do any harm and may do good. The insatiable thirst is most distressing. Most natives prohibit drink of any kind, but this seems to be unnecessary, though it is but just to add that out of eight cases treated by a native doctor in that way there was not one death. It must be borne in mind, however, that these cases were not within the "fatal zone." Small lumps of ice should be constantly placed in the mouth for the patient to suck, but considering the craving for a "long drink," it is but reasonable to suppose that cold water should be given *ad libitum*, notwithstanding the fact that it is at once vomited. A teaspoonful of dilute sulphuric acid may advantageously be added to each pint of cold water, as it not only

helps to allay the thirst, but also to check the sickness. Food should be given, but owing to the incessant vomiting it is difficult for the stomach to retain it, but if given frequently and in very small quantities, there is a chance of some of it being kept down. Half a teaspoonful, and no more, of equal parts of lime water and milk—the latter is too heavy by itself—or the same quantity of chicken or beef-juice should be given every ten minutes during the day and night, increasing the quantity, and diminishing the frequency as the invalid's condition improves. Alcoholic stimulants are best avoided, should there be much prostration two or three drops of sal-volatile may be added to each teaspoonful of nourishment.

During convalescence food should still be very sparingly given. A quinine tonic will help to give tone to the system. There is always great restlessness, for which ten to twenty grains of chloral, or a drachm of tincture of hops or tincture of henbane should be given, and judiciously repeated. Later on, when it is safe to give opium, twenty to forty drops of paregoric or ten drops of laudanum will prove beneficial.

Diarrhœa and dysentery often hang on to an invalid after his recovery, and should be treated with astringents. In cases where irritation is

present, an astringent enema will generally give relief.

LIVER.

Liver is a term promiscuously made use of to denote being "out-of-sorts." It embraces a multitude of diseases from simple indigestion to true congestion of the liver. So general is the term "liver" that unless the real disease be discovered little or no benefit will result from treatment, but fortunately there is not much difficulty in arriving at a correct conclusion as the symptoms of each disease are for the most part well marked.

The usual symptoms are: headache, loss of appetite, irritability of temper, heaviness about the eyes; sometimes jaundice, foul tongue, nausea and feverishness.

Should these symptoms have existed only for a few days a good purgative of five to ten grains of calomel, followed by a dose of fruit salt or a saline purgative, will be all that is required; but if, as is more often the case, the symptoms are chronic, strong purgatives should be avoided and a systematic course of treatment enforced. The general health should be improved by taking ten drops of dilute nitro-muriatic acid with ten drops of tincture of

gentian in an ounce of orange water three times a day just before meal times. The bowels should be regulated by diet, and a pill of a quarter of a grain of podophyllin, two and a half grains of compound rhubarb pill, and a grain of extract of henbane every night, or every other night as may be necessary, should be taken at bedtime.

Meat should be eaten only once a day and then sparingly; potatoes should be avoided, but green vegetables are permissible. Soups, pastry, and all entrées should be forbidden, but porridge and marmalade,—not jam,—should be allowed.

Sometimes there is a feeling of languor, which makes the patient feel disinclined for any exertion and utterly unfit for work. A stronger tonic is then necessary, and a teaspoonful of Fellowes' syrup in a wineglass of water twice a day is one of the best, or one grain of quinine dissolved in ten drops of dilute nitromuriatic acid with ten drops of tincture of nuxvomica in an ounce of chloroform water three times a day, half an hour before meals, is serviceable.

CONGESTION OF THE LIVER.

Congestion of the liver may be the result of some organic disease of the heart or lungs, but is usually produced by a chill, abuse of alcoholic stimulants, excessive eating, want of exercise, and long residence in the country. All these causes, save perhaps the last, are within control.

The symptoms are fulness and sense of tightness with pain and tenderness about the liver ; pain in or near the right shoulder ; headache ; nausea or vomiting ; loss of appetite ; foul tongue ; irregularity of bowels, but usually constipation ; mental depression ; jaundice ; and often piles.

Abuse of alcoholic stimulants, excessive eating and want of exercise, give rise to an excess of bile, some of which is absorbed by the blood, and produces jaundice.

The treatment is a matter of common sense, *i. e.* an abstemious and well regulated diet, and a fair amount of outdoor exercise, especially on horseback.

Long residence in the country is best remedied by a sea voyage.

A chill for the most part produces congestion and swelling of the lining membrane of the common bile duct, which becomes obstructed, in

a similar manner as the nostrils are blocked in an ordinary cold in the head, and so retards, if not altogether prevents, the flow of bile. The congestion may spread and run on to inflammation and even abscess.

The treatment should be prompt. A linseed meal poultice, to which a little mustard may be advantageously added, should be applied over the seat of pain. Should the bowels be confined two scruples of soda in an ounce of decoction of taraxacum twice or three times a day will prove beneficial in promoting the flow of bile, provided the inflammation of the lining of the common bile duct has sufficiently subsided to allow the bile to pass into the bowel. When the bowels have been relieved the soda and taraxacum should be omitted, and ten drops of dilute nitromuriatic acid with ten drops of tincture of gentian in an ounce of orange-water should be given three times a day. Should there be any tendency to a recurrence of the constipation, decoction of taraxacum or infusion of senna should be substituted for the orange-water.

Piles, if inflamed, irritable, or painful, should be poulticed with linseed meal, or well steamed by sitting over a pan of hot water; otherwise they should be left alone, as they serve to act as a safety valve to the liver.

INFLAMMATION OF THE LIVER.

Inflammation of the liver is invariably a serious disease. It may be acute or chronic ; it may follow simple congestion or run on into an abscess ; it may attack only the coats or the substance, or any or all of the structures of the liver ; it may be associated with malaria, or depend on an habitual indulgence in spirit drinking, or other causes. The symptoms are : pain and tenderness over the liver, pain on drawing a deep breath or coughing ; pain in the shoulder, fever, headache, loss of appetite, foul tongue, hiccup, cough, difficulty of breathing, nausea, vomiting, sometimes of large dark clots of blood, irregularity of bowels, which may be confined but are more often loose, though occasionally the evacuations consist only of blood, inability to lie on the left side (the most common position being on the back), and an unhealthy sallow look with a yellow tinge of the white of the eyes.

The treatment consists in the application of large hot poultices over the region of the liver, to be followed by compresses of dilute nitrohydrochloric acid and water, half an ounce of the former to a pint of the latter. With the bowels confined, two scruples of sulphate of

soda in an ounce of decoction of taraxacum three times a day, will speedily afford relief, but with the bowels loose a pill containing one grain of extract of opium, one grain of ipecacuanha powder, six grains of nitrate of potash, with a sufficiency of glycerine, will usually have a good result. This pill may be divided into two, for, if undivided, it forms rather too large a mass to be easily swallowed. When this pill is ineffectual the red mixture of twenty grains of sulphate of magnesia with a teaspoonful of tincture of rhubarb in an ounce of peppermint water given three times a day, with ten grains of Dover's powder at bedtime, will prove beneficial. Occasionally twenty grains of chloride of ammonium in an ounce of water, taken three times a day, has a good effect. The greatest relief is often obtained by deeply puncturing the substance of the liver in five or six places, or by the abstraction of blood with the aspirator.

Complete rest in bed, abstinence from all alcoholic stimulants, and a nourishing, but simple, diet are necessary.

As soon as the urgency of the liver symptoms has subsided, the general health should be improved by taking a teaspoonful of Fellowes' syrup in a wineglass of water or five grains of citrate of iron and quinine in an ounce of flavoured water three times a day.

Bleeding should be checked by relieving the portal (liver) congestion by freely purging with a tablespoonful of fruit salt, or by a course of Epsom salts.

Ice, as a means of temporarily arresting the bleeding, is useful.

ABSCESS OF LIVER.

Climatic abscess of the liver occurs as the result of acute inflammation. It is usually single, and in this respect differs from the abscesses which are formed in cases of blood poisoning. Sometimes it becomes absorbed, but usually bursts into either the lung, bowel, abdomen, or by coming to the surface and opening through the skin.

The symptoms are those of inflammation, with attacks of shivering. The pain and tenderness are severe, and the patient loses flesh rapidly. Should the abscess burst either into the lung or bowel, the early treatment consists in supporting the strength by five grains of carbonate of ammonia in an ounce of decoction of yellow bark three times a day, and a nutritious non-alcoholic diet. Later on, the lung and bowel symptoms must receive their appropriate treatment. Three grains of car-

bonate of ammonia, with ten drops of tincture of squills in an ounce of decoction of senega, every four hours, to which mixture, in troublesome cases, five drops of tincture of belladonna may advantageously be added, will help to alleviate the cough.

The diarrhœa and dysentery which so frequently occur after an abscess has burst into the bowel, should be treated in the manner advocated for these diseases.

When an abscess bursts into the abdomen, peritonitis—an inflammation—invariably follows with a fatal result. One grain of opium every two or three hours, with large hot fomentations or linseed poultices over the abdomen, is all that can be done medicinally. The bedclothes should be supported so as not to press on the abdomen.

When an abscess comes to the surface, or so near the surface as to enable a correct conclusion to be formed, either by the symptoms which characterise the presence of matter, or by a puncture with an exploring needle, several courses may be adopted. The abscess may be allowed to burst of its own accord; it may be aspirated, or a free incision may be made, and a drainage-tube inserted. Each plan has its advocates, but a free incision and the insertion of a drainage-tube give the most favorable

result. To wait till the abscess bursts of its own accord, is unscientific and a waste of time, in addition to which there is not a free exit for the matter.

After aspiration, the matter usually re-accumulates, even though the aspirating needle may be sufficiently large to allow of the cavity of the abscess being completely emptied. A free incision, therefore, which enables the matter to drain away as fast as it is formed, has the strongest recommendation, and experience justifies its adoption.

SLUGGISH LIVER.

Sluggishness or torpidity of the liver presents very variable symptoms. The invalid feels out of sorts but is unable to say definitely what is the matter with him. The action of the bowels may be irregular, but there is usually constipation; headache, drowsiness, languor, depressed spirits, and often irritability of temper are present. In long-standing cases there is loss of flesh. The urine is generally high coloured, either depositing a sediment or appearing thick after being allowed to stand for a short time, due to the presence of lithates. The invalid, who is usually hypochondriacal, is unnecessarily

alarmed by this symptom, which disappears as the health improves.

The treatment consists of a simple diet of plainly cooked meat in moderation and a few vegetables. Potatoes are indigestible, and fruit often injurious. Milk does not suit every one, and tea and coffee should be weak. All alcoholic drinks should be avoided.

The bowels should be carefully regulated either by small doses of calomel, podophyllin, and colocynth ; fruit salt, or some other mild aperient. The general health should be improved by ten drops of dilute nitromuriatic acid with ten drops of tincture of gentian in an ounce of decoction of taraxacum, three times a day.

Should a looseness of the bowels exist, twenty grains of sulphate of magnesia, with five grains of light carbonate of magnesia, in an ounce of peppermint water, should be taken three times a day.

JAUNDICE.

Jaundice is in reality a symptom and not a disease. It may be caused by either absorption or retention of bile. The bile, in addition to its other functions, is *Nature's* purgative, so that should the bile be defective in quality or deficient in quantity, constipation ensues. It is

well to bear this in mind in the treatment of that complaint.

The symptoms are: yellowness of the skin and the white of the eyes, pale clay coloured and sometimes white motions, headache, loss of appetite, bitter taste, flatulence, nausea, itching of the skin, irritability, giddiness, drowsiness, mental depression, emaciation and exhaustion.

The treatment is dependent upon the cause, but as most cases of jaundice result from a temporary derangement of the liver, a short course of Epsom salts is usually beneficial. Twenty grains of sulphate of magnesia with ten drops of sal volatile in an ounce of peppermint water, three times a day, half an hour before meals, generally produces the desired effect in three or four days. Should there be any pain in the right side, a linseed meal poultice should be applied over the seat of it, and later on the region of the liver should be well rubbed. The tonic of ten drops of dilute nitromuriatic acid with ten drops of tincture of gentian in an ounce of orange-water should be given three times a day for a week or ten days after the jaundice has disappeared, and should the bowels be inactive, a teaspoonful of the liquid extract of taraxacum should be added to each dose of the mixture.

A simple diet and avoidance of all alcoholic

stimulants form an essential part of the treatment.

GALL-STONES.

Gall-stones may be single or multiple, but they rarely show any symptoms of their presence so long as they remain in the gall-bladder. It is only when they begin to make their escape that the true nature of the illness becomes apparent.

The symptoms, which may begin with a rigor, and usually commence suddenly, are : a lancinating, burning pain, situated below the ribs on the right side and extending backwards to below the right shoulder-blade ; feverishness ; vomiting and great prostration.

Should the stone completely block the channel through which the bile flows into the bowel, jaundice will be present and may remain persistent for some time after the discharge of the stone. The pain usually occurs in paroxysms shortly after taking food, and may last from a few hours to several days, and is often so severe that the invalid rolls on the floor, writhing in agony until thoroughly exhausted. The discharge of the stone relieves all the urgent symptoms, but invalids, who have once suffered

from gall-stones, are liable to a recurrence of them.

The treatment aims at the relief of the pain and the prevention of its recurrence. Opium is the most reliable remedy and the hypodermic injection of a quater of a grain of morphia, repeated if necessary, is the most appropriate method of administration. Should the severity of the paroxysm demand urgent and immediate relief, chloroform, or ether, or a combination of both, should be given by inhalation. Hot baths, followed by the application of an ointment containing equal parts of extract of opium, extract of belladonna and glycerine, with linseed-meal poultices and fomentations, are often of great benefit in allaying the pain. After the discharge of the stone, the nitro-hydrochloric acid baths are useful. The jaundice should be treated by giving ten drops of dilute nitrohydrochloric acid in combination with ten drops of tincture of gentian and a teaspoonful of liquid extract of taraxacum in an ounce of water, three times a day.

The diet should be carefully regulated. Highly-seasoned food, rich gravies, sweets, and alcoholic stimulants should be avoided, and meat only eaten in strict moderation. Copious draughts of hot water containing bicarbonate of soda (two teaspoonfuls to a pint), are beneficial,

and half a tumbler of Hunyadi Janos water, taken every morning before breakfast, is serviceable. It is doubtful whether the so-called sci-vents are in any way efficacious.

PILES.

Piles may be external, intermediate, or internal, according to their situation.

They are of frequent occurrence, and may result from heart, lung, or liver complaints, habitual constipation, pregnancy, and various other causes. The treatment must necessarily consist in the removal of the cause, local treatment being only palliative.

A teaspoonful of confection of senna or half a tumbler of Hunyadi Janos water before breakfast, will help to regulate the bowels, whilst strict attention must be paid to diet and the general health.

A painful and inflamed pile is best relieved by sitting over a pan of hot water, steaming it, and subsequently applying a hot linseed poultice or fomentations.

Should there be excessive bleeding, a teaspoonful of the tincture of hamamelis in an ounce of flavoured water, taken three times a day, will help to check it. Cold-water enemata after each motion are also serviceable.

When these remedies fail to do good, operative measures must be employed, though it should always be borne in mind that bleeding in moderation may relieve a congested liver and frequently prove beneficial.

SUNSTROKE.

Sunstroke may be due to the direct action of the sun's rays or the result of great and continued solar heat acting on a body whose power of resistance is enfeebled by malaria, fatigue, intemperance, or any other depressing cause.

An attack may be sudden during exposure to the sun, or may come on during the early hours of the morning, and frequently occurs on a cloudy day. The symptoms of a sudden attack are:—Great heat and dryness of skin; high fever, thirst, headache, giddiness and faintness, nausea, and sometimes vomiting, deafness, difficulty in breathing, and a sense of tightness across the chest, congestion of the white of the eye, contracted pupils, and usually constipation.

In more severe cases the patient is unconscious, and dies, with or without convulsions, from coma, the pupils of the eyes dilating prior to death. The attack may, however, be insidious. The patient has been queer and out of

sorts, listless, stupid, and irritable, and has experienced a dull aching sensation in the head, not sufficient to lead him to consider he is suffering from any illness worse than a temporary indisposition. He goes about his work as usual, but within a few hours becomes unconscious and dies.

On recovery from the immediate effects of the "stroke," the patient may be attacked with paralysis, or his mental powers may be so impaired as to unfit him for his business. He is seldom the same man again, and later on he may suffer from pain in the head, defective memory, and irritability of temper, and sometimes become subject to fits of an epileptic character.

Months and even years afterwards the most trivial cause may lead to most serious results. An extra glass of wine or beer, or exposure on an unusually warm day, may bring on an attack of temporary insanity or idiotcy, rendering the invalid irresponsible for his actions.

Sunstroke is much more frequent amongst children than is commonly supposed, but with them the real nature of the illness is often overlooked, as *diarrhœa* and fever are the usual premonitory symptoms, giving rise to the mistaken impression that the child is suffering from teething.

Sunstroke is so serious a disease, and the consequences are so grave, that the preventive treatment is as important as the curative. The sun need not be feared, but must be respected. The head should be covered with a light but fairly thick topi, which should descend on either side of the head to the top of the ears, in order to protect the temples, and well down the back to keep the direct rays of the sun from the nape of the neck. Flannel shirts should be worn either next to the skin or else over a thin silk banian, both as a safeguard against a chill and a protection against the rays of the sun, and a coat should be made of a thin light woollen material, and on occasions of unusual exposure a pad four inches broad should cover the whole length of the spine. The "duster" coats are only suitable for evening wear after the sun has gone down. Collars should be quite loose. Alcohol should be avoided during the heat of the day, and it is a good and safe plan on returning from having been out in the sun, to drink a glass of cool, *not iced*, water, which not only encourages the skin to act, but by evaporation cools the body. The glass of water prophylactic is one of the surest preventives against sunstroke, and should be rigidly adhered to in spite of the drawback that it is likely to bring on prickly heat.

Great attention should be paid to regulate the bowels, and on no account should there be, after any bodily or mental fatigue, any exposure to the sun. With due regard to these preventive precautions, the risk of sunstroke is reduced to a minimum.

The treatment of a mild case of sunstroke, when the patient is either conscious or semi-unconscious, consists in pouring a continuous stream of cold water over the head, neck, chest, and spine, applying strong smelling salts to the nostrils ; and if the patient should be able to swallow, giving half a teaspoonful of sal volatile in a little water every quarter of an hour or twenty minutes. Five to ten grains of calomel should be put at the back of the patient's tongue and washed down with good strong tea, which may be taken *ad libitum*. As soon as there is any sign of improvement the skin should be encouraged to act by a dose of Warburg's tincture, which when fresh and good is a most reliable medicine. Should it be known that the patient is subject to fever it would be better to give ten grains of quinine in a little lemon-juice and water. Pounded ice should be continually applied to the head, and unless the the patient is very low the spine should also be rubbed with ice.

Natives have great faith in the application

to the shaved head of a squash made from the pulp of the tamarind, and there is no doubt this is often beneficial.

In more severe cases more energetic remedies are necessary. After a continuous stream of cold water has been poured over the head, neck, spine, and chest, should the patient not show any sign of coming to himself, the head should be clean shaved and a blister the size of the palm of the hand applied to the top of the head and a second to the nape of the neck. When the blisters have risen they should be snipped with a clean pair of scissors and dressed with vaseline or simple ointment. Strong smelling salts should be held to the nostrils, and the bowels should be freed by a turpentine enema. Pounded ice must be kept continuously applied to the head over the blistered surfaces, and should unconsciousness still continue nutrient enemata should be administered.

The persistent headache, so common after an attack of sunstroke, needs a judicious course of treatment. Small flying blisters to the temples, or over the seat of pain, often afford considerable relief, and fifteen grains of bromide of potassium with fifteen drops of sal volatile in half a wine-glass of sweetened water three times a day may prove beneficial. Two grains of iodide of potassium in an ounce of decoction

of sarsaparilla taken three times a day often do good, whilst Fellowes' syrup—a valuable tonic of quinine, iron, and strychnine—frequently acts like a charm. Electrization is, under certain conditions, a suitable remedy, and occasionally cures when every other remedy has failed; but more important than all medicine is a change of air to a cool climate.

FEVER.

The general acceptance of the term fever is a rise of temperature. The body is hot, the mouth parched, the tongue furred, and the invalid suffers from malaise, nausea, headache, and loss of appetite with functional derangement of one or more of the organs of the body.

All inflammations are accompanied with a rise of temperature; for example, in pneumonia or inflammation of the lungs there is a considerable rise of temperature; but fever of this description is not peculiar to India, and therefore does not come under consideration. Fever as met with in India, is dependent on climatic and atmospheric influences.

A precise classification of the causes is impossible, owing to the numerous varieties of fever which are met with, but, for the sake of

simplicity, it may be as well to form an artificial division into

Simple fever.

Continued fever.

Malarial fever.

SIMPLE FEVER.

Simple fever, *i. e.* fever without any complications, is chiefly brought on by exposure to heat or cold, but it may also result from causes of indiscretion, *i. e.* over-eating, excessive drinking, fatigue, either mental or bodily, and dissipation, &c.

Fever, which follows undue exposure to the heat of the sun usually commences with severe headache, pain in the eyeballs, aching in the back and limbs, loss of appetite and languor, followed by nausea, and often vomiting, heat of skin and thirst, and subsides with profuse perspiration. The duration of this fever is from one to five days. The treatment consists in pouring a continuous stream of cold water over the invalid's head and neck; rest in bed and low diet. The bowels should be freely moved either by five grains of blue pill, followed by an ounce of black draught, a large dose of fruit salt, or any saline purgative. Pounded ice

should be kept constantly applied to the head, and the high temperature *i. e.* the fever, reduced by a teaspoonful of the liquor of the acetate of ammonia in half a wineglass of water given every hour, whilst sleep should be encouraged by taking ten grains of Dover's powder at bedtime. Should the skin fail to act, fifteen grains of salicylate of soda with five grains of carbonate of ammonia and twenty grains of bicarbonate of potash in a wineglass of sweetened water, may be taken every second hour. The pain in the eyeballs, and the headache, one or both, often remain after the fever has subsided; the former is best relieved by five drops of Fowler's solution, with ten drops of sal volatile, or five grains of the citrate of ammonia and iron, in half a wineglass of camphor water three times a day after food; whilst the latter is benefited by two-grain doses of iodide of potassium in half a wineglass of decoction of bark or sarsaparilla taken three times a day. When the headache is persistent, flying blisters to the temple often prove serviceable in relieving the pain.

Fever due to a chill may be mild or severe. The mild form, which lasts from one to three days, may be considered as a cold influenced by atmosphere and climate. It frequently begins with a sensation of chilliness, sometimes in-

tensified to a distinct shiver, which, passing off is followed by heat of skin and thirst, and usually terminates in a profuse perspiration, after which the invalid falls into a sound sleep, and awakes restored to health, except that he feels weak and unfit for any exertion.

The severe form is fever of longer duration. It may last from three days to three weeks. Ushered in with an attack of shivering, the fever remains persistently high. The prominent symptoms are,—headache, furred tongue, thirst, disordered bowels, nausea, and often vomiting; aching pains in the eyeballs, and muscular pains all over the body. The treatment of the mild form should consist of rest in bed, free purging of the bowels either by five grains of blue pill, followed by an ounce of black draught; a large dose of fruit salt, or a double seidlitz powder; tepid sponging of the whole body; slop diet; an unlimited supply of cold water to drink, and ten grains of Dover's powder at bedtime. Quinine as an antifebrifuge is not only useless but often harmful.

The treatment of the severe form must be more heroic. The temperature, *i. e.* the fever, must be reduced. In addition to the treatment advocated for the simple form, the invalid should be packed in a wet sheet. The method of wet packing is carried out as follows:—Soak

a sheet in cold water, and carefully place it under the invalid, wrap it around him and then envelop him in a blanket. When wet packing fails to reduce the temperature, the invalid should be given a cold bath. A warm bath of 98° F. is prepared, and the invalid placed in it; the temperature of the water in the bath being gradually lowered by the addition of cold water to 50° F. The invalid should be kept in the bath until the temperature of his body falls below 100° F. This can be ascertained by placing a clinical thermometer underneath the invalid's tongue, or, by what is a safer plan (for the thermometer), by inserting it within the bowel. The invalid should then be taken out of the bath, wrapped up in a warm blanket, given a drink of warm tea, soup, or gruel, and put to bed. The bath ought to be repeated, unless the invalid shows signs of exhaustion as often as the fever temperature rises to 105° F., even if it should have to be given every hour. By this means the heat is kept down, consumption of the tissues of the body is retarded, and the flame of life does not burn out. The skin may be encouraged to act by giving fifteen grains of salicylate of soda with five grains of carbonate of ammonia, and twenty grains of bicarbonate of potash in an ounce of sweetened water, every two hours.

After the removal of the invalid from the bath a large dose of ten to fifteen grains of quinine may be given, with the view of retarding or preventing a renewed rise of temperature ; but if this method of treatment does not produce beneficial results after the first trial, it should not be repeated ; for the object in giving quinine is not to counteract any poisonous agent in the fever, as is done in malarial fever, but only to keep down the temperature ; for experience justifies the expression of the opinion that quinine not only sometimes hinders recovery but occasionally aggravates the disease.

Amongst a number of cases the most striking illustration was afforded by an invalid who had taken nearly 2000 grains of quinine without any apparent benefit. The drug was ordered to be discontinued, and three days afterwards the temperature fell to below normal, and six months later the invalid had not suffered from a recurrence of the fever. It is possible that this was a mere coincidence, but if so these coincidences frequently multiply themselves.

The miscellaneous causes which produce fever are over-exertion, excessive eating and drinking, and dissipation. Rest in bed, a free purging and starvation diet, will generally effect a cure except in those cases in which the constitution has been thoroughly undermined by vice, when

it will be necessary to rigidly enforce the treatment for that particular disease.

CONTINUED FEVER.

Continued fever is a persistently high fever which cannot be traced to any recognised inflammation. The fever usually commences insidiously and continues for weeks and months in spite of all treatment.

The symptoms are malaise, loss of appetite, headache, furred tongue, thirst, disordered bowels, nausea, and often vomiting; pains in the back and limbs, and heat of skin. It terminates gradually, though sometimes it assumes an adynamic form, closely allied to enteric fever. During the disease the invalid loses flesh and becomes debilitated.

Continued fever differs only from simple fever in that the temperature remains persistently high for a longer time. Congestions of the lungs, liver, and intestines are often associated with it just as inflammation of the lungs frequently follows enteric fever, but these diseases should be looked upon rather in the light of complications and not as having any special reference to the fever, and should receive their own appropriate treatment.

The treatment of continued fever taxes severely the powers of the physician and the patience of the invalid. The same medicinal remedies as are advocated for the treatment of the mild form of simple fever should have a fair trial. When these have failed, as they necessarily must do, otherwise the disease would come under the heading of simple fever, a systematic course of treatment should be adopted. Cleanliness should be enforced, and a supply of fresh air secured. It often happens that the disease is protracted by an absence of sanitation in the drainage of a place, and the sooner the invalid is removed from this deleterious influence the quicker recovery will take place. A change of residence from one side of the road to the opposite side has often completely broken an obstinate attack of continued fever, but a change of station, even for a few days, is more commendable. Careful dieting is important. The longer the disease continues, and the greater the exhaustion of the invalid, the more perseveringly must attention be paid to the administration of nourishing food, which should be given in fluid form in small quantities and at frequent intervals. Strong soups, egg-flip and milk, should compose the principal diets. Milk is sometimes found to be too heavy for digestion, but the addition of a third

of lime-water will make it more easily assimilated. Should the stomach show signs of great irritability, pancreatic emulsion, beef and chicken-juice should be judiciously substituted.

The body should be sponged over every three or four hours with a weak solution of vinegar and tepid water, of the strength of one in four. This not only ensures cleanliness, but is both soothing and beneficial, and also tends to encourage the action of the skin.

It is seldom that the temperature of continued fever is so high as to endanger life from paralysis of the heart's action, but the continuous over-heating induces consumption, and consequently emaciation, of the body. The cold bath treatment, which is intended to reduce the temperature, the duration of which would be dangerous to life, is usually unnecessary, but should be given, if the severity of the fever should call for it. Should the disease continue free from complications further treatment is not likely to prove beneficial, and unless the disease dies out of its own accord, as frequently happens, the invalid had better be shipped for change of air to England. During convalescence a quinine and iron tonic, or a teaspoonful of Fellowes' syrup in a wineglass of cold water three times a day, will help to restore him to health.

MALARIAL FEVER.

Malarial fever results from an infection of the body with a poisonous substance called malaria, the precise nature of which is still unknown. It may, however, be taken for granted that this poison possesses certain properties which are capable of generating a paroxysmal type of fevers, which are neither contagious nor infectious. It is thought that the poison of malaria consists of low vegetable organisms, whose development is chiefly due to the putrefaction of vegetable substances ; but even this definition can scarcely be considered accurate.

With the insufficient knowledge of the nature of this poison, any opinion must necessarily be theoretical, but that the development of this class of fevers is influenced by the temperature of the atmosphere, and propagated by the winds, is universally admitted. It must be left to science to unravel the skein of this difficult problem, for it would be worse than useless to enter upon a discussion in which a common basis of agreement has not yet been arrived at.

The term malarial fever is usually confined to fevers of an intermittent and remittent type, although it is possible, if not probable, that the poison plays an important rôle in the develop-

ment and activity of cholera, dysentery, and other diseases.

INTERMITTENT FEVER.

Intermittent fever, commonly called ague, is a specific fever occurring in paroxysms, and characterised by a cold, a hot, and a sweating stage, followed by a period of complete absence from fever. The expression of "fever and ague," which is so commonly made use of, is an incorrect term, for ague is the name of a fever, and it would be equally correct to talk of "fever and measles" or "fever and scarlatina" as it is to say "fever and ague." The absurdity of the expression may be clearly demonstrated, if the name of intermittent fever be substituted for the term ague, and then, instead of saying "fever and ague" it would be "fever and intermittent fever."

There are three distinct varieties of intermittent fever.

Quotidian, when the attack occurs once in twenty-four hours.

Tertian, when the attack occurs once in forty-eight hours.

Quartan, when the attack occurs once in seventy-two hours.

The time between the commencement of one attack and the beginning of another is called the *interval*, and the period which intervenes between the termination of one attack and the commencement of another is called the *intermission*.

Sometimes there may be two separate attacks in one day, and then the disease is said to be double quotidian, or there may be a double tertian, or a double quartan, and occasionally two types of the disease may be mingled, and exist at the same time.

Sometimes the cold stage of an attack of intermittent fever may occur and not be followed by the hot, or there may be a hot stage not preceded by a cold. Intermittent fever may, in fact, run a regular course or be subject to many variations.

A characteristic attack of intermittent fever consists of a cold, a hot, and a sweating stage.

The usual premonitory symptoms of an attack are languor, lassitude, debility, a sense of oppression about the stomach, nausea and vomiting, loss of appetite, headache, and pain in the back and lower extremities.

The invalid soon begins to feel cold all over, gapes and stretches his limbs, his features become shrunk, his nails, fingers, lips, nose,

ears, and cheeks turn blue, and these symptoms are followed by a violent shivering and chattering of the teeth with hurried respiration.

The cold stage lasts from half an hour to three hours, and then the hot stage gradually begins with flushes of heat until a permanent feeling of warmth ensues, when the appearance of the invalid changes. The colour returns to the skin, the blueness disappears, the features lose their shrunk look, and the breathing becomes easier, at the same time the headache increases and there is great thirst and restlessness.

The hot stage lasts from three to twelve hours, when it is followed by the sweating stage. Beads of perspiration break out on the forehead, the hands and feet become moist, and the whole body is bathed in a profuse sweat. The invalid experiences great relief, the headache usually passes off, the thirst becomes lessened, the breathing is easier, the temperature of the body falls to its normal standard or even below it, and the invalid awakens from a sound sleep feeling comparatively well until a fresh attack comes on.

After one ague fit the fever may leave the invalid and not return, or it may be followed by a milder attack, or even by a third or more,

and then disappear without any impairment to the invalid's constitution, but the fever does not often take such a favorable turn. The paroxysms may recur for weeks and even months until the invalid's health is quite broken down, or the fever may assume a remittent type or even take on the character of an enteric fever. Constant attacks give rise to enlargement of the spleen, and so long as this symptom remains present a recurrence of the fever is always probable.

The treatment of an ordinary attack of ague is simple. Experience seems to justify the expression of the opinion that when once a paroxysm of intermittent fever has commenced it invariably runs its course, for out of 1200 cases of fever, 200 of which were treated by the liquor of the acetate of ammonia, 200 with the sulphate of beberia, 200 by quinine in small doses, and 200 by quinine in large doses, 200 with the salicylate of soda, and 200 by a simple purgative, the primary results were nearly identical and served to show that medicine was of little, if any, benefit in arresting the actual paroxysm. In all cases of fever the administration of a purgative is necessary. A moderate dose of fruit salt will have the desired effect, or a teaspoonful of Gregory's powder,

combined with ten grains of compound jalap powder will also be efficacious.

Opinions differ about the advisability of giving an emetic at the onset of the disease, but there is little doubt that in the case of a strong and robust man it is advisable to clear out the contents of the stomach by the aid of two scruples of sulphate of zinc or half an ounce of ipecacuanha wine and so relieve the oppression about that organ. It is quite a different matter in the case of a delicate woman or of a man who is debilitated by the influence of the climate or former disease, the weakness of whom forbids the employment of strong measures. As soon as the cold stage commences the invalid should be put in bed and covered with one or two warm blankets. The practice which is so commonly adopted of loading the invalid with warm coverings cannot be too strongly condemned, as not only is there not any additional gain of warmth, but the excessive weight restrains the already impeded circulation and further increases the difficulty of respiration. Hot-water bottles may be placed against the feet, between the legs, and in the armpits, and gentle friction of the body and extremities with warm flannel will help to remove the feeling of chilliness, whilst drinks of warm tea in moderation will be very grateful to the invalid. Should there be any

symptoms of collapse, stimulants, in the shape of coffee, ammonia, and ether should be freely given.

During the hot stage the surface of the body and limbs should be frequently sponged over with vinegar and tepid water, of the strength of 1 in 4, but this must be discontinued as soon as the sweating stage commences, when the invalid should be wrapped up in a warm dry blanket.

It is during the "intermission" that treatment is most beneficial. The antiquated notion that it was injudicious to interfere until after the invalid had been subject to three or four paroxysms of fever has justly exploded, and it is now universally admitted that the sooner the invalid is freed from the paroxysms the better for his recovery.

There is not any drug which has stood the test of experience so well as quinine, but the administration of this medicine requires care, and it may be laid down as a golden rule, on which too much stress cannot be placed, that quinine should not be given until the bowels have been freely relieved; and this is an additional reason for the administration of a purgative at the onset of the disease. The stomach may be too irritable to retain quinine; when this is so, five to ten drops of laudanum in

a teaspoonful of water or an effervescing draught, containing twenty grains of bicarbonate of soda, dissolved in a little water in effervescence with seventeen grains of citric acid, should first be given to allay the irritability. Should these measures fail, and the postponement of the administration of quinine not be considered advisable, fifteen grains of sulphate of quinine should be mixed with half a pint of thin gruel and given as an enema. It is best to begin by giving a large dose of quinine, for it is more than probable that the poison of malaria counterbalances the action of the quinine and diminishes the risk of the invalid suffering from quinism.

Ten to twenty grains of quinine should be given shortly after the invalid has recovered from the effects of the profuse perspiration, or at any rate several hours before the expected outbreak of a fresh paroxysm, and repeated after the cessation of an attack. Should another paroxysm be prevented or the period of intermission prolonged, quinine must not be altogether discontinued, but given in graduating smaller doses for several days. It is as well to give a full dose of quinine as a precautionary measure on the seventh, fourteenth, and twenty-first days after the cessation of the fever. In long-standing and inveterate cases in which the

system is impregnated with malaria and the spleen is enlarged, quinine must be steadily persevered with until the enlargement of that organ has subsided, for as long as any enlargement exists there is always a tendency for the fever to relapse.

Sleeplessness or restlessness are best treated by ten grains of Dover's powder at bedtime or twenty grains of bromide of potassium in combination with twenty grains of hydrate of chloral in an ounce of camphor water.

During convalescence, tonic doses of two grains of sulphate of quinine, with ten to fifteen drops of the tincture of the perchloride of iron in a wineglass of water, should be given twice a day, and, should the bowels be confined, thirty grains of sulphate of magnesia should be added to the mixture. Occasionally, invalids possess an idiosyncrasy against quinine, or the stomach persistently rejects it, or it may fail to do any good and then a trial must be given to arsenic. Five drops of Fowler's solution with ten drops of sal volatile in half a wineglass of water should be given three times a day, after food. Other drugs, such as beberia, chloride of ammonium, &c., have been recommended, but their efficacy is not equal to the antifebrifuge properties of quinine and arsenic.

The dieting of an invalid needs careful con-

sideration. It must be borne in mind that the digestive powers are impaired, and that solid diet is consequently not permissible. The invalid's strength requires to be supported by nourishing food, and the starvation treatment, except in those cases in which the illness can be attributed to gluttony, is injudicious. There is not any better food than milk, which, should it prove too heavy for digestion, should be mixed with an equal part of lime water. Soups which are not too strongly peppered, and beef-tea, are useful auxiliaries, and for an invalid whose digestion is very weak, beef and chicken juice are strongly recommended. The yolk of an egg beaten up in a little milk will form an agreeable change. The thirst is best alleviated by an unlimited supply of cold, not iced, filtered water, soda water or lemon squashes. Small lumps of ice placed in the mouth and allowed to dissolve frequently relieve the thirst when a long drink fails to do so. Alcoholic drinks should be strictly prohibited. Before meat should be allowed every trace of fever ought to have subsided, for more than one life has been sacrificed to gratifying the desire for a chop. Finely-chopped mince, a thin slice of roast mutton, or a small piece of breast of chicken may be given at the commencement of a meat diet.

The method of treatment just advocated is

suitable for an ordinary attack of fever, but exceptional cases do occur which resist these remedies and then a different mode of treatment must be adopted. As a rule the obstinacy of the disease is due to the invalid's constitution being undermined either by continued exposure to the poison of malaria, by constitutional disease, by dissipation, or by the habit of habitual drinking. A change to England is, without doubt, the best remedy, but this may be neither convenient nor possible. The invalid may not be able to afford the sacrifice of a lucrative appointment and is willing to submit to any restrictions or to undergo any line of treatment which may save him from leaving the country.

Although the usual treatment by quinine has failed it is not advisable to discard such a valuable medicine. A change must be made in the method of administration. A quarter of a grain every quarter of an hour, or half a grain every half hour, or one grain every hour, should be given until the invalid has either taken sixty grains or until he experiences symptoms of quinine, which are : deafness, noises in the ears, intolerance of light, double vision, headache with a feeling as if the top of the head were coming off, giddiness, fainting, vomiting, and purging. Should the invalid fall off to sleep the medicine should be discontinued, but only

to be recommenced as soon as he awakes. The administration of a quarter of a grain frequently produces a distinct effect from that of half a grain, or one grain, so each method should have a fair trial. Warburg's tincture, the principal ingredient of which is quinine, has gained for itself a well-deserved reputation in the treatment of an obstinate case of intermittent fever, but if after two doses a good result is not apparent it is useless to continue it. The quinine treatment must not be abandoned so long as any enlargement of the spleen remains, though in the event of quinism the drug must be temporarily discontinued.

Other useful remedies are : a teaspoonful of Parrish's food, or a teaspoonful of the syrup of the iodide of iron, or a teaspoonful of Fellowes' syrup, or a teaspoonful of Easton's syrup given three times a day in half a wineglass of water, and should the constitution be impaired by some specific poison the appropriate treatment for that disease should be adopted or else given in combination with quinine. A teaspoonful of cod-liver oil in a little milk often gives good results.

AGUE-CAKE.

Ague-cake is an enlargement of the spleen due to malarial poisoning, and may occur after repeated attacks of malarial fever or from impregnation of the system with the malarial poison. The average weight of a healthy spleen is about six ounces, but in cases of ague-cake the weight may increase to twenty, thirty, or even forty ounces. The enlargement is in a great measure due to the accumulation of blood, though it is probable that there is an increased formation of the structure of the spleen.

Owing in part to the withdrawal of the blood from the rest of the body, and in part to the increased formation of the white with the destruction of the red corpuscles of the blood, the invalid assumes a pale, waxy or sallow appearance, which to the practised eye is unmistakable.

The impoverishment of the blood leads to a malnutrition of the body, and the invalid becomes debilitated, and either wastes away or becomes dropsical. The lungs, liver and kidneys, often become secondarily affected. The treatment is simple. Locally the red iodide of mercury of the strength of ten grains to an ounce should be rubbed into the side before a fire. After

one or two applications the unction must be discontinued for a week or ten days.

Internally quinine, as has been pointed out in the treatment of intermittent fever, is infallible, and must be persevered with until every trace of the enlargement has disappeared.

Bromide of potassium in fifteen-grain doses in an ounce of camphor water given three times a day occasionally does good, but its efficacy cannot be compared to that of quinine.

BROW-AGUE.

Brow-ague is a species of neuralgia, influenced by the malarial poison. The pain is very severe and confined to one side of the head, coming on in paroxysms in a similar manner to intermittent fever. The slightest movement and even talking increases the pain, and the invalid looks thoroughly ill and worn out; often suffering from nausea and vomiting, shunning the light, and losing all taste for food.

The treatment in the first place aims at the relief of the pain, and the best method of doing this is the hypodermic injection of an eighth of a grain of morphia into the *arm*, or a small blister the size of a thumbnail may be applied to the temple, and subsequently dressed with a

sixth or a quarter of a grain of morphia. The A.B.C. liniment, consisting of equal parts of aconite, belladonna, and chloroform, often affords temporary relief, and should be well rubbed over the painful part.

Five-grain doses of quinine three times a day is the most reliable remedy to effect a permanent cure. Two grains of croton chloral in combination with fifteen grains of bromide of potassium, fifteen drops of tincture of gelsemium, and fifteen drops of sal volatile in an ounce of camphor water given every two hours for six doses is sometimes efficacious, whilst twenty grains of hydrate of chloral will often give relief by sending the invalid off into a sound and refreshing sleep.

REMITTENT FEVER.

Remittent fever is a fever attended with exacerbations and remissions. It closely resembles intermittent fever or ague with the exception that there is not a complete cessation of fever, but simply an abatement. The two diseases are often coexistent. Remittent fever has three stages : a cold, a hot, and a sweating stage, but the hot is more marked than either of the other two. The severity of the symptoms

of this disease is greater, the degree of fever higher and more persistent, the subsequent depression more severe, the course more rapid, complications more frequent, and the rate of mortality larger than in intermittent fever.

• Remittent fever more often commences with a mere feeling of chilliness than with a distinct attack of shivering, accompanied with a sense of oppression over the stomach, nausea and vomiting, general depression and malaise, which symptoms are followed by the hot stage, during which the mouth is parched, the tongue furred, the throat dry, and the whites of the eye turned yellow. Flushed face, severe headache, pain in the back and limbs, giddiness and mental disturbance, as shown by muttering delirium, are present, and often there is a feeling of tightness about the chest with shortness of breath and cough. Jaundice is a common symptom, and dropsy occasionally occurs, whilst bleeding from the nose, vomiting of blood, and the presence of blood in the excreta are very frequent.

The exacerbation of fever usually takes place towards the evening, and the temperature remains high for twelve or more hours, sometimes as long as thirty. The remission of fever is ushered in either by the invalid breaking out into a general perspiration, though this is seldom the case, or by the fever abating, with

only a slight moisture of the skin. One paroxysm follows another, and the severity of the disease depends on the length of time during which the hot stage lasts till the remission sets in. The longer the duration of the remission the more favorable is the probable result. Remittent fever may run its course in seven, fourteen, or twenty-one days, but usually it lasts a longer and more indefinite time, and often assumes a low type of fever, closely allied to enteric; in fact, it may safely be asserted that many cases of so-called enteric or typhoid fever are in reality remittent fever.

When the disease is protracted, the spleen invariably enlarges just as it does in severe cases of intermittent fever, and so long as this organ remains enlarged, a relapse of the fever is always probable. The lining membrane of the bowels also becomes inflamed and frequently ulcerated, and this is generally a serious and troublesome complication.

The treatment must aim at lessening the period of exacerbation and lengthening that of the abatement, at the same time supporting the invalid's strength and combating any complication that may arise. So long as the fever lasts, the body in a more or less degree is being constantly consumed, and it is the absence of cessation of fever which augments the risk of

complications makes the disease more formidable than intermittent fever.

It is difficult to understand why the poison of malaria should produce in one invalid a fever of an intermittent character and in another a fever of a remittent type, but such is undoubtedly the case. The line of initial treatment is similar and identical in both fevers, and the cure of both diseases is mainly dependent on the administration of quinine.

In remittent fever the functions of the liver are usually deranged, so it is as well to begin the treatment with a brisk purgative which will act upon that organ. Five to ten grains of calomel, to which may be added ten grains of compound scammony powder, and ten grains of Dover's powder, should be given, or a pill containing one grain of podophyllin, three grains of compound extract of colocynth, and five grains of extract of henbane, will form a good substitute. As soon as the bowels are relieved, ten to twenty grains of quinine should be taken and repeated every four hours, until symptoms of quinism begin to show themselves. If, owing to the vomiting, quinine cannot be given by the mouth, it should be administered as an enema, and in exceptional cases by hypodermic injection. Warburg's tincture has been shown to be very efficacious in the treatment of this

disease, and should be persevered with every four hours for six doses, and then, should the temperature not fall, be discontinued, and the pure quinine powder given.

Twenty grains of bromide of potassium, which may be repeated in three hours, should be taken at bedtime to allay the restlessness and promote sleep. The addition of ten to fifteen drops of tincture of Indian hemp to the sleeping draught often materially assists it.

Should symptoms of quinism appear or should quinine not reduce the temperature, five drops of Fowler's solution of arsenic, combined with twenty drops of sal volatile, in an ounce of camphor water should be given every four hours, and in addition sponging the body with vinegar, and tepid water, wet packing, and, if there should be any reason, from the severity of the fever, to fear paralysis of the heart's action, the cold bath should be tried.

Fifteen grains of salicylate of soda combined with ten grains of ammonia, and twenty grains of bicarbonate of potash, may be given every second hour, in an ounce of sweetened water, to endeavour to promote the action of the skin. When the heart's action is tumultuous, and the pulse bounding, small and frequent doses of tincture of aconite, two drops every half hour, should be carefully administered until the medi-

cine has reduced the force of the heart's action. This method is attended by danger, but the severity and urgency of the symptoms often justify its adoption.

Ice to suck will help to relieve the thirst, check the vomiting, and arrest the bleeding.

The strength should be supported by nourishing fluid diet or nutrient enemata, and all alcohol should be strictly prohibited.

As the severity of the fever diminishes, the doses of quinine should be lessened, but it should be borne in mind that there is not any remedy the efficacy of which can compare with quinine in the treatment of malarial fever, which in large or small doses should be persevered in, until every trace of the fever, and all enlargement of the spleen, have disappeared.

Complications should receive their appropriate treatment separately, or in combination with the quinine.

During convalescence, a teaspoonful of Fellowes' syrup in half a wineglass of water three times a day is a very reliable tonic.

DENGUE.

Dengue is a fever which usually commences suddenly with shivering and general malaise,

followed by severe headache, acute pain in the muscles and joints, suffused eyes, flushed face, laboured respiration, quick pulse, high fever temperature, severe thirst, a thickly coated tongue and great prostration.

About the third day a rash, bearing a resemblance sometimes to the eruption of measles or scarlet fever, and at other times to nettle-rash or red-coloured blotches, appears on different parts of the body, fading away in two or three days, and being followed by a desquamation or peeling of the skin. Relapses are frequent, the throat is often implicated, and the lymphatic glands in the neck, groin, and elsewhere occasionally become enlarged and inflamed.

The treatment consists in giving fifteen grains of salicylate of soda, with ten grains of carbonate of ammonia, and twenty grains of bicarbonate of potash in a wineglass of sweetened water every three hours. Gibson's gout specific is also a valuable remedy. Ten grains of Dover's powder at bedtime will promote sleep, and encourage the action of the skin, and if given during the day at intervals of six hours will alleviate the pain. During convalescence, and also between the relapses a teaspoonful of Fellowes' syrup in half a wineglass of water, or five drops of Fowler's solution, with five grains

of extract of colchicum, and five grains of citrate of iron and ammonia in an ounce of sweetened water should be given three times a day.

CONGESTION OF THE SPLEEN.

The spleen readily becomes congested on account of its great vascularity, and the elasticity of its capsule, and after every meal it becomes more or less overloaded with blood.

Congestion chiefly occurs in connection with acute febrile diseases, especially malarial and enteric (typhoid) fevers, but it may also be produced by a chill, as well as by heart and lung diseases which create a mechanical congestion. It is not generally admitted that a chill causes congestion, but it undoubtedly does so, and it is difficult to see any logical reasoning against it. The symptoms are a feeling of weight in the left side, with a certain degree of tenderness, anæmia, general debility, and an enlargement of the organ. The treatment of the congestive enlargement which results from a chill consists in the application of hot fomentations or turpentine stupes over the seat of tenderness, and by the administration of a teaspoonful of the liquor of the acetate of ammonia in an ounce of flavoured water given every two hours until the skin acts freely.

In cases in which the congestion depends on an extraneous cause the treatment is not so satisfactory, as it is only the removal of the cause which can reduce the enlargement.

The acute congestion associated with malarial fever is treated by five to ten grains of quinine given three times a day. The general health should be improved by five drops of Fowler's solution of arsenic in combination with ten drops of the tincture of the perchloride of iron in an ounce of a bitter infusion of quassia given three times a day after food. Fifteen grains of bromide of potassium, together with five grains of citrate of iron and ammonia in an ounce of chloroform water, given three times a day, often proves serviceable in reducing the enlargement, whilst a teaspoonful of cod-liver oil with a teaspoonful of the syrup of the iodide of iron, given twice a day, or a teaspoonful of Fellowes' syrup, or a pill containing a fiftieth of a grain of phosphorus and two grains of reduced iron, taken every morning and evening, should give strength and tone to the debilitated system.

In intractable cases after fever the hypodermic injection of a disc of ergotine sometimes does good. The enlargement which exists with enteric (typhoid) fever disappears as the disease convalesces and needs no special treatment, except perhaps a short course of quinine.

The chronic enlargement known as "ague cake" will be found described elsewhere (p. 92). In addition to congestion the spleen is liable to other diseases, abscess, cancer, &c., which are, however, but rarely met with in India.

ENTERIC OR TYPHOID FEVER.

Enteric or typhoid fever is a continuous and protracted fever usually attended with diarrhoea and characterised by an eruption of rose-coloured spots, ulceration of the bowels, and enlargement of the spleen.

Enteric fever may run a definite or variable course according as the fever is free from or associated with malaria.

In an uncomplicated case of enteric fever the invalid feels out of sorts and suffers from headache, which is chiefly confined to the forehead, dizziness, loss of appetite, pain in the back and limbs, mental debility, restless sleep disturbed by dreams, and often bleeding from the nose. These symptoms, which may last from a few days to several weeks, often lead the invalid to think he is only suffering from an attack of simple fever, but as the disease progresses he experiences a sensation of chilliness and complains of thirst, an increase of pain

in the head and great prostration. As a rule in this early stage the bowels are confined, though occasionally they are relaxed from the commencement of the disease. The tongue is coated with thin white fur in the centre whilst the tip and edges are red, and the face is either pale or marked with a circumscribed red flush on each cheek.

The invalid retains his consciousness but takes little interest in what is going on around him and answers questions only in monosyllables. This apathetic condition is one of the primary warnings of the presence of enteric fever. Between the seventh and twelfth day a few raised, pale rose-coloured spots, which disappear for the moment on pressure, appear on the chest and abdomen, and fade away in three or four days, to be succeeded by a fresh crop, which in turn dies away, to be again replaced. The eyes, which till now have been bright, become dull; the tongue dry, red, glazed, and often cracked; the intellect confused; delirium, sometimes muttering and at other times noisy, sets in, and the invalid, who usually suffers from a short hacking cough, rapidly loses flesh and strength. The abdomen becomes distended and resonant; and tenderness will be experienced on pressure low down on the right side. Gurgling is also discernible

in this region, and this symptom was at one time considered to be typical of enteric fever, but experience has amply demonstrated that it is dependent on the presence of diarrhœa, for in the absence of this symptom it is wanting. All this time the spleen has been enlarging, as it invariably does in enteric fever, but it is difficult to define the enlargement owing to the softness and displacement of the organ upwards and backwards by the distended bowel. The absence of any enlargement of the spleen is conclusive proof that the case is not one of enteric fever, and therefore the importance of an accurate diagnosis on this point is most essential, and a careful attention to the position of the invalid during medical examination will greatly facilitate the arrival at a correct conclusion.

At the commencement of the second week the headache diminishes, but the intellect is more confused, hallucinations often occur, deafness is very marked, and considerable difficulty is experienced in persuading the invalid to do what he is asked. This lethargy is often so great that when, after repeated demands, he puts out his tongue he forgets to draw it in again. About this time diarrhœa generally begins and its character removes any possible doubt about the nature of the disease. The

evacuations are loose and bilious, somewhat resembling badly-cooked pea-soup. Crusts form on the teeth, gums, and lips, and the tongue becomes black and dry. Later on the prostration becomes more severe, all the calls of nature are responded to involuntarily; vitality is at such a low ebb that bedsores form; and the congestion of the lungs rapidly increases, often leading to inflammation.

In favorable cases, about the end of the third or beginning of the fourth week, the urgency of the symptoms subsides. The invalid sleeps; the intellect becomes clearer; the evacuations more natural both in colour and consistency; the fever diminishes; and with an abatement of the other symptoms the case terminates in a slow recovery. A relapse not unfrequently occurs and the struggle for life has to be fought over again.

In unfavorable cases death may result from inflammation of the lungs, producing suffocation; from an exacerbation of fever, causing paralysis of the heart; from a blood-poisoning, due to an absorption of poisonous material from the ulcers of the bowel; from bleeding from the bowel, the result of the destruction of the coats of one of the arteries by the ulceration; from an inflammation of the covering membrane (peritonitis) consequent on extension of the

inflammation of the bowels, or due to perforation of the bowel and escape of the contents. The cough, expectoration, and abnormal respiration indicate the mischief in the lungs; the thermometer shows the exacerbation of the fever; blood-poisoning is recognised by irregular attacks of shivering, clammy sweats, pains in the limbs and joints, fever, loss of appetite, thirst, restlessness, diarrhœa, and exhaustion; bleeding from the bowel is foretold by the sudden fall of the temperature below normal, the presence either of black clots or red blood in the evacuations, the blanched appearance of the face and lips, the feebleness of the pulse, and the invalid's anxious expression; and peritonitis shows itself by distension, resonance, pain and tenderness of the abdomen, a drawing up of the knees, rapid respiration, limited to the chest, nausea, vomiting, anxious and suffering expression of countenance, cold clammy sweats, and exhaustion.

The morning and evening temperatures of a regular case of enteric fever are characteristic and typical of the disease. During the first week the temperature rises two degrees towards evening and falls one degree before the next morning, and during the second week the evening temperature varies from 104° to 106° Fahrenheit, being slightly in excess of the morning

temperature. In favorable cases the morning temperature falls and the difference between the morning and evening temperatures is more marked. Later on the evening temperature also decreases, but until both temperatures are normal the invalid cannot be considered to be convalescent. An exacerbation of the temperature to 107° or 108° during the second week, a continuance of a high evening temperature beyond the third week, or a sudden fall of the temperature to 95° or 94° , indicate the probability of a fatal result. A morning temperature of 105° at the very commencement of an illness favours the exclusion of enteric fever, though it must not be forgotten that this fever does occur with irregularities of temperature, especially if associated with malaria.

Treatment.—An uncomplicated case of enteric fever does not require any medicine, except for the relief of symptoms.

The cough is generally relieved by ten drops of tincture of Friar's balsam, ten drops of paregoric elixir, and ten drops of balsam of tolu in an ounce of dill water every three or four hours, or by a teaspoonful of the liquor of the acetate of ammonia, with half a teaspoonful of ipecacuanha wine in a little water.

Restlessness is best treated by sponging the body over with vinegar, and, in obstinate

cases, by taking ten grains of Dover's powder at bedtime. Shaving the head, and the application of ice, or a mild mustard-leaf poultice to the nape of the neck to act as a counter-irritant, will often relieve the restlessness and insomnia (want of sleep).

The mouth may be cleaned by rinsing it out with equal parts of glycerine and rose water, and the crusts which form on the lips and gums may be removed by gently bathing them with warm water. Rubbing the tongue over with the cut surface of a fresh lemon is both soothing and grateful to the invalid.

The diarrhoea should be controlled, but not unduly checked, and so long as the number of evacuations do not exceed six in twenty-four hours medicinal treatment is unnecessary.

Twenty grains of bismuth, or ten grains of alum, or forty grains of aromatic chalk powder, which may be combined with sixty drops of tincture of catechu and five drops of laudanum in an ounce of water, may be given every four hours. A teaspoonful of Bragg's vegetable charcoal in a wineglass of cold water, given every morning and evening, is often beneficial when the motions are loose and offensive.

Straining is usually relieved by a starch and opium enema of the strength of twenty drops of laudarum to two drachms of starch.

Bleeding from the bowel may be checked by ten drops of oil of turpentine with ten drops of laudanum in an ounce of mucilage and water, given every three hours. Should this remedy fail, twenty grains of gallic acid, with ten drops of dilute sulphuric acid and ten drops of laudanum in an ounce of water given every three hours, frequently stops the bleeding.

The distension of the bowel is alleviated by ten drops of oil of turpentine in an ounce of mucilage and water given occasionally.

The inflammation of the bowel (peritonitis) should be treated by a grain of extract of opium in a pill every three hours until the invalid is fully under the influence of the drug ; and the application of turpentine stupes to the abdomen.

Bedsore may be prevented by rubbing the reddened skin with spirits and water ; by painting the surface with collodion, placing the invalid on an air- or water-bed. Constipation should be treated in the first instance with two grains of calomel, followed by a seidlitz powder, after which simple or medicated enemata should be employed.

The high temperature may be reduced by ten-grain doses of quinine or twenty grains of salicylate of soda, but in obstinate cases the cold-bath treatment is the most efficient remedy.

The success which attends the cold-bath treatment is dependent upon its thorough application. Half measures are worse than useless and the bath should be *repeated as often as the temperature reaches 104 degrees*, provided the invalid's strength will allow of it.

The dieting of an invalid with enteric fever is very important. The food should be exclusively liquid, and consists principally of milk, diluted with a fourth part or even more of lime water, for if the milk should curdle in the stomach or pass undigested into the bowel, the already inflamed and probably ulcerated lining membrane will be irritated and the risk of perforation will be greatly augmented. Koumiss is preferable to milk as it does not curdle in the stomach. Beef-tea, thickened with a little arrowroot, and chicken juice, should be given occasionally during the day, but it should be remembered that they are liable to increase the diarrhœa. In the twenty-four hours the invalid is required to take two pints of milk, which should be given with systematic regularity.

During the daytime, *i.e.* from 6 a.m. to 9 p.m., four ounces (an ounce is equivalent to nearly two tablespoonsful), with the addition of one fourth part of lime water, should be given every third hour, and at 12 p.m. and 4 a.m. six to eight ounces with the proportion of lime water.

Beef-tea and chicken juice may occasionally be *substituted* for the milk. A judicious discretion must be exercised as to the advisability of awaking the invalid at times when the food is due, but as a general rule it is advisable to do so. Should symptoms of exhaustion manifest themselves, the food ought to be given more frequently but in smaller quantities, and then teaspoonful doses of meat extracts or concentrated soups may be given every half hour, bearing in mind that over-feeding is as serious a mistake as giving an insufficient quantity. Cold water may be given *ad libitum* and as frequently as desired, but all aerated waters should be prohibited as they have a tendency to cause flatulence, which may even lead to rupture of the bowel. During convalescence the yolk of eggs may be beaten up with the milk, but solid food is not permissible until both the morning and evening temperatures have been normal (98.4° Fah.) for ten days.

A relapse and even death often results from eating solid food before the lining membrane of the bowel has healed. The question of alcoholic stimulants is a matter for serious consideration. In a very large proportion of cases, alcohol is unnecessary, and it is doubtful if at any time it is of much benefit. This fact is quite certain, that when the pulse is small,

quick, weak, and fluttering, alcohol will not improve it unless the disease mends independently of it.

ENTERIC FEVER ASSOCIATED WITH MALARIA.

Enteric fever associated with malaria is a more difficult disease to recognise than the simple variety, for it frequently commences either as a simple, continued, remittent, or intermittent fever, and it is only from the persistency of the high temperature that the true nature of the disease is suspected. The symptoms are usually obscure, but the general appearance of the invalid—a cachexia which baffles description—enables a tolerably accurate conclusion to be arrived at, and the obstinacy with which the disease resists all treatment affords additional evidence of the nature of the illness. Instinctive experience converts the supposition into a certainty, and any further attempt to describe the disease would be of little benefit, for on the one hand all the characteristic features of a severe case of enteric fever may be present, or, on the other hand, some or all of them may be absent. This disease has been called *typho-malaria*, a name which is apparently only a confession of doubt and difficulty,

and which has only recently been added to the official nomenclature of diseases.

The treatment consists of the combined treatment of simple enteric and malarial fevers. The symptoms should be treated as they occur, with the addition of quinine to counteract the malarial complication. When simple quinine fails, as it frequently does, Warburg's tincture may be tried, or five drops of Fowler's solution of arsenic combined with five drops of laudanum, should be given in an ounce of water after food three times a day. The invalid's strength should be maintained by nourishing *fluid* diet. The chest, inside of thighs, and arms should be rubbed with cod-liver oil. A change to England as soon as possible is desirable.

INTESTINAL DISEASE.

The bowels are a common seat of disease, either primary or secondary to some other affection. Certain parts of the canal favour the development of certain diseases, but it is rare to find the whole length involved.

The symptoms may be definite, but are more often obscure. The character of the evacuations is a great guide for the deduction of a correct

conclusion, but in the absence of marked signs experience can alone detect disease.

Treatment, either palliative or curative, invariably affords relief or effects a cure.

CONGESTION OF THE BOWELS.

Congestion of the bowels occurs naturally during the process of digestion, but it can also be produced by a chill, the presence of any irritating substance, as a foreign body, or a poisonous drug, and by disease of the heart or liver.

The symptoms are not well defined, but as a rule diarrhœa is present, owing to an increased secretion of mucus and intestinal fluids. Bleeding frequently occurs from the rupture of some of the congested smaller blood-vessels, and the lining membrane becomes thickened.

The treatment consists in giving thirty grains of compound jalap powder at bedtime, or a teaspoonful of compound liquorice powder every night, regulating the amount and frequency by the necessary requirement.

Ten drops of tincture of hamamelis in an ounce of cinnamon water should be given every two hours to check the bleeding; but in cases of emergency the hypodermic injection of a two-

grain disc of ergotine will be more reliable and more speedy in effect. In certain cases in which the bleeding is not excessive it is injudicious to endeavour to restrain it ; and then twenty grains of sulphate of magnesia with five grains of carbonate of magnesia should be given in an ounce of peppermint water twice or three times a day. Large warm linseed-meal poultices, with the addition of a little mustard, should be applied over the whole of the abdomen.

INFLAMMATION OF THE BOWELS.

Inflammation of the bowels may follow congestion, be directly due to the presence of any irritating substance, the result of extension of an inflammation from the neighbouring parts, or to some specific poison ; but by far the most frequent cause amongst Anglo-Indians is a chill. During the hot months, especially when there is a great difference between the day and night temperatures, and the air is filled with moisture, exposure to a chill is frequently followed by inflammation.

The symptoms are very variable, according to the extent of the disease and to the different parts of the bowel which may be affected.

In the early stage of the disease, diarrhœa

is invariably present, but as the inflammation extends, especially if in the upper part of the canal, constipation often results from a paralysis of the inflamed bowel. The evacuations, when the inflammation affects the lower part of the bowel, often have a dysenteric appearance, which causes the disease to be again and again mistaken for dysentery. Many cases too of supposed enteric fever are nothing more or less than inflammation of the bowel, and this fact accounts for the frequent fruitless endeavours to discover some defect in the sanitary arrangements or in the purity of the drinking-water.

The appearance of the tongue is one of the surest indications of the nature of the disease. This statement is not generally admitted to be correct, but it is undoubtedly the case, though unfortunately the description is difficult, as it is only from experience that it can be recognised. Sometimes it is red and glazed, at other times coated with a thick fur, and occasionally appears, on a cursory inspection, to be healthy, but there is always a look, without the organ being swollen, as if it were too large for the mouth, and it generally appears sodden.

The other symptoms which are more or less marked are :—feverishness, pain and tenderness, sometimes accompanied by colic, straining and

difficulty in defæcation, thirst, and occasional loss of appetite.

The inflammation, if not checked, may cause ulceration which may lead to rupture of a blood-vessel or perforation with subsequent collapse and death.

The treatment consists of rest in bed with food of an entirely liquid character. Milk should always be diluted with lime water, otherwise it curdles and acts as an irritant. Ice should be given to quench the thirst, as large quantities of water are deleterious. Aerated waters should on no account be taken and wine and spirits are best avoided. In severe cases all food should be given by enema instead of by the mouth. Half an ounce of castor-oil with ten drops of laudanum should be given in the first instance to remove any source of irritation, after which ten grains of carbonate of bismuth with ten grains of bicarbonate of soda, two drops of dilute hydrocyanic acid, and five to ten drops of laudanum, should be taken three times a day. In certain cases twenty grains of sulphate of magnesia with five grains of carbonate of magnesia, and ten grains of bicarbonate of soda, given in an ounce of peppermint water three times a day, will produce a marked beneficial result. Occasionally an enema of fifteen drops of laudanum in two tea-

spoonsful of starch is very useful. Linseed-meal poultices, hot fomentations, or turpentine stupes should be applied over the whole of the abdomen, and should there be any distinctly painful spots and the strength of the invalid permit of the abstraction of blood, the application of three or four leeches will afford considerable relief. During convalescence ten drops of the tincture of the perchloride of iron, to which, should there be any malarial complication, two and a half grains of quinine should be added, should be given three times a day in an ounce of flavoured water.

TROPICAL FEVER.

Tropical fever was first described by the author in the 'British Medical Journal,' September 30th, 1882. It is a fever which possesses certain characteristics of its own. Akin to malarial, and also to enteric fever, it cannot correctly be designated by either name, nor can it be considered to belong to the group of heterogeneous diseases which have been classified under the term of typho-malaria. It is certainly sporadic and usually attacks adults. That it is not due to the germs of malaria there is every reason to conclude, as neither

quinine, arsenic, nor any other known anti-febrifuge exert any influence on the course of the disease. The great weakness, the dry raw-beef appearance of the tongue, the bleeding from the nose, the crusts on the mouth and lips, the persistent headache, the indomitable thirst and the loss of appetite at first give rise to the suspicion of enteric fever, but the obstinate constipation throughout the disease, the absence of any abdominal distension, the want of any eruption, and the clear intellect the invalid maintains throughout, upset the theory of suppuration. It cannot be classed as a fever of continued type, as there are decided remissions; nor can it be said to be relapsing fever, since it is not epidemic, and the attacks are irregular. The disease runs its course in twenty-one days, but a relapse frequently occurs, which resembles in severity and duration the primary attack. The temperature from the commencement of the illness resembles that of convalescence from true enteric fever, the difference between the morning and evening temperatures being as great as three, four, and even five degrees. It is usual for one of the internal organs to be principally affected. It may be the stomach, as shown by nausea and vomiting; or the lungs may be considerably congested, and in some cases inflamed (pneu-

monic); or the liver may be enlarged and tender, accompanied occasionally with jaundice, or the spleen may be the seat of hyperæmia; or the bowels may be inflamed. In cases in which death has occurred, the special organ affected during life shows marked evidence of congestion. The spleen may be enlarged to three or four times its natural size; or the liver may have a nutmeg appearance; or the lungs may be consolidated; or the stomach may be so inflamed as to originate the idea of poisoning; or the bowels may be congested, inflamed, or even ulcerated.

The disease is not usually fatal, but troublesome sequelæ generally result, the most common being plugging of one of the large veins of the extremities, producing pitting and swelling of the limb. The disease is apparently due to a chill, caused by a sudden atmospheric change of temperature, acting on an overheated system.

TYPHUS FEVER.

Typhus fever is of rare occurrence in India, but, when it does exist, is most prevalent amongst the poorer class of Eurasians. It may either be generated by a highly contagious and specific poison, or developed in consequence of

great overcrowding, deficient ventilation, destitution and mental depression. It commences suddenly, although sometimes during the previous week the invalid may have been feeling below par, and troubled with malaise, headache, loss of appetite and general pains.

The symptoms are :—a severe fit of shivering or a series of chills which usher in the attack, a sudden and continuous rise of temperature, severe brow headache, noises in the ears, congestion of the white of the eyes, with small pupils ; intolerance of light with occasional flashes, restlessness, constipation, but sometimes diarrhœa ; loss of appetite, thirst, a dry, brown, tremulous tongue ; great prostration ; and delirium, which sometimes is violent, but usually of a muttering character.

On the fourth or fifth day a rash appears which may consist of a dusky red mottling of the skin—in reality beneath the skin—or a mulberry-hued rash, which becomes fully developed in two or three days and remains persistent until about the fourteenth day, or even later, when it entirely disappears.

During the eruptive stage all the existing symptoms increase in severity, except the headache, which usually subsides after the first week. The prostration is most severe, the invalid lies quite helplessly on his back, either with his eyes

half closed or staring vacantly with the eyes wide open ; respiration is laboured, muscular twitchings and sometimes persistent hiccup occur ; the complexion is muddy or livid ; the lips and teeth are covered with crusts, the tongue becomes shrivelled and cracked, and bedsores frequently occur. The invalid picks at the bedclothes, passes the evacuations involuntrily, and is occasionally seized with convulsions, dying in a state of coma and from failure of the heart's action.

In cases of recovery a favorable turn takes place suddenly about the end of the second week, the invalid falling into a sound sleep from which he awakes much refreshed. The temperature falls, the delirium ceases, the tongue cleans, the complexion clears, the mind shows signs of improvement, the appetite becomes ravenous, and the bodily strength gradually returns.

The treatment aims at guiding the disease to a satisfactory termination and combating the urgency of special symptoms, for the disease, when once established, runs its course.

Absolute rest in bed and a fluid and nutritious diet, which should be given at regular intervals of three or four hours day and *night*, are important. The bowels should be carefully regulated either by an occasional seidlitz powder, a dessertspoonful of fruit salt, a teaspoonful of confection of senna, or by a simple enema.

Ten drops of dilute nitromuriatic acid with ten drops of tincture of bark in an ounce of water should be given every three hours. If diarrhœa with exhaustion is present small doses of two grains of quinine dissolved in twenty drops of dilute sulphuric acid in an ounce of chloroform water should be given three times a day. Cold water should be taken *ad libitum*, acidulated by the addition of a teaspoonful of either dilute nitromuriatic or dilute sulphuric acid to the pint. During convalescence two grains of quinine with ten drops of tincture of the perchloride of iron in an ounce of infusion of quassia should be given three times a day.

One or other of the symptoms often require special palliative treatment. When the prostration is severe, the strength requires to be supported by ten drops of sal volatile with ten drops of spirits of ether in an ounce of camphor water given every two hours. Delirium should be treated by the application of ice, in an ice-bag or bladder, to the head. The distress from hiccup should be relieved by a mustard leaf over the stomach and either one or two drops of chloroform on sugar, given occasionally, or ten grains of bicarbonate of soda with ten drops of sal volatile and ten drops of spirits of chloroform given in an ounce of infusion of cloves every two or three hours.

BERIBERI.

Beriberi is an obscure disease, but the symptoms are:—malaise, fainting, general weakness, anæmia, dropsy, first of the lower extremities, subsequently of the trunk and face; difficult breathing, vomiting, thirst, palpitation, paralysis, and exhaustion.

The treatment, owing to the obscurity of the nature of the disease, is unsatisfactory. Tonics of quinine and iron may be given to counteract the anæmic symptoms, and small doses of diuretics, diaphoretics, and purgatives may be tried. A pill containing two grains of calomel with two grains of scammony powder and two grains of extract of rhubarb may be given at bedtime to regulate the bowels. Five grains of citrate of iron and ammonia with ten drops of tincture of digitalis in an ounce of chloroform or orange water given three times a day deserves a further trial.

PAYMASTER'S CEREBRAL ANÆMIA.

This disease is peculiar to those whose daily vocation is with figures, *i. e.* paymasters and banking clerks. It runs an insidious course

and develops into an attack of temporary mental derangement.

The symptoms commence gradually by the invalid feeling out of sorts and suffering from occasional attacks of giddiness. The appetite fails, and there is great restlessness and want of sleep, followed by a general depression of spirits, impairment of hearing and sight, with specks before the eyes, twitching of the limbs, and a confused idea of figures on the brain. The speech becomes disconnected, the intellectual power impaired, the brow contracted, the pupils dilated, and there is great intolerance of light. As the disease progresses, the restlessness increases, the invalid walking up and down regardless of all surroundings, and paying little or no attention to any remark which may be addressed to him; the twitchings become more constant, cramps ensue, and partial paralysis eventually sets in. The anxiety about the accounts seems to prey upon his mind, and under the impression that he is the only man capable of doing the work, and at the same time recognising his inability to perform it, he becomes melancholic. If at this stage the necessary treatment is not enforced the invalid's condition grows from bad to worse. The calls of nature are disregarded and the invalid walks about hurriedly in a half-dressed

state, muttering to himself and constantly pulling either at his shirt collar or some other part of his dress. He suffers with hallucinations, thinks life not worth having, or else develops homicidal tendencies.

Under large doses of nervine sedatives, tonics, carefully regulated diet and open-air exercise, an improvement gradually takes place, only, however, to be followed by a relapse, each succeeding attack being more severe than the preceding one. The treatment is simple, but should be radical, and consists of compulsory resignation of all work, complete rest, and an entire change of life and associations. A temporary rest by placing the invalid on the sick list is worse than useless, as it only serves to increase his anxiety and excitability. Nothing short of removal, and the conviction that it is absolutely impossible for him to resume his work, will be of the slightest benefit. A sea-journey, by preference in a sailing ship, is the best change of scenery, and an interval of at least six months should be allowed to elapse before the invalid should re-commence his work, even if the attack should only have been a trivial one. The bowels should be kept perfectly regulated either by a teaspoonful of compound liquorice powder or by a tablespoonful of fruit salts taken every morning, and the

general health improved by a quinine and iron tonic or a teaspoonful of Fellowes' syrup given three times a day. Twenty to thirty grains of bromide of potassium in an ounce of flavoured water, given at bedtime and repeated in two hours if necessary will help to induce sleep and allay the nervous irritability.

PART II.

THE ANGLO-INDIAN'S HEALTH AT HOME.

HOME.

THE return of the Anglo-Indian after a long residence abroad, to the land of his birth, is not unattended with risk to health and even danger to life. The various functions on whose just balance the health depends have been unnaturally disturbed by the heat and atmospheric changes peculiar to the country in which the Anglo-Indian has been residing, and the restoration of this balance of health must necessarily be a gradual process. To rely implicitly on the change of climate to repair the shattered constitution, to remove the depressing influence of the late life, to remedy the nervous and muscular debility, is to put trust in a broken

reed. The climate is an important accessory, but is not the sole aid to treatment. Diet, regular habits, suitable clothing, moderation in eating and drinking, and a judicious use of medicines are as essential for the recovery of good health as the influence of a temperate climate.

It must be obvious that the amount of constitutional damage done is in proportion to the length of residence in the country, so that the health of the recently arrived young Anglo-Indian, who takes a run home as a pleasure trip, is easily and quickly restored to its customary vigour; whilst the worn-out, prematurely aged veteran must submit to a systematic course of treatment to obtain a like result.

The general principles of treatment require to be modified and adapted to suit the individual requirements of each invalid.

THE EFFECT OF COLD.

Cold exercises a contrary effect to heat, and, acting through the nervous system, causes the blood-vessels near the surface to contract, with the result that the blood is driven inwards to the internal organs.

The lungs and kidneys, which have been re-

lieved of the greater part of their ordinary work by the excessive activity of the skin, are suddenly requisitioned to resume their normal functions, and being unable to accommodate themselves to the additional strain on their powers, enfeebled by comparative disuse, are unequal to the task, consequently the efficient restoration of these organs must be a gradual process, and the health of the Anglo-Indian can only improve slowly.

The cooler climate of the hills is sufficient to restore the balance of functions in the Anglo-Indian who has only been a short time in the country, but after a more lengthy residence, only a complete change to Europe is likely to be of any benefit.

The "one year more" is frequently the last straw which sets up irremediable organic disease in the internal organs, and often leads to a fatal result. The temptations of increased pension, or a longer furlough are doubtless great, but it is well that the Anglo-Indian should be forewarned that these advantages can be obtained at too dear a price.

ANÆMIA.

Anæmia results from an impoverished and altered state of the constituents of the blood.

The anæmic invalid presents a pale, waxy, blanched appearance ; experiences a feeling of general debility with a disinclination from all exertion ; the expression of the countenance is dull and vacant, the memory is impaired, the digestion is weak and depraved, the extremities are cold, and the feet and legs swell ; giddiness, buzzing in the ears, neuralgic pains, palpitation, shortness of breath are also present. In short, the functions of the brain, heart, lungs, liver, kidneys, spleen, and bowels, are one or more seriously disordered.

Anæmia may exist alone or associated with other diseases ; consequently it is essential to differentiate between the disease itself and anæmia as a symptom of a disease.

Long residence in India may bring about a depraved condition of the blood, even in persons who apparently have never had a day's illness, and may be accounted for by the imperfect aeration of the blood. As a rule, however, this condition is a sequel to the severe and exhausting diseases met with in the country.

It is quite possible too that on the return of the Anglo-Indian to a temperate climate, the cold, contracting the superficial blood-vessels, drives the blood from the surface, and in this manner creates an artificial appearance of anæmia.

The treatment of simple anæmia, though tedious, is usually satisfactory. Regular habits, judicious diet, moderate exercise, relaxation of mind, and total abstinence from alcoholic stimulants, are best calculated to restore tone to the blood, whilst the various salts of iron act as specifics in the medicinal treatment. As iron has a tendency to produce headache it is prudent to commence with the milder preparations. Ten drops of dialysed iron, or five grains of citrate of iron and ammonia, or a teaspoonful of Parrish's food given in half a wineglass of flavoured water three times a day are the most suitable remedies. Later on a quinine and iron tonic, or Fellowes' syrup, or the mixture of triple phosphates, should be substituted. The bowels should be carefully regulated either by a teaspoonful of confection of senna, night and morning, or by a five-grain pill of aloes and myrrh at bedtime. Anæmia as a symptom is only amenable to the appropriate treatment of the disease on which it is dependent. Quinine, digitalis, squills, dilute nitric acid and taraxacum, potash, henbane and buchu, bromide of potassium, arsenic, ergot, and opium, are the most important and reliable remedies, and should generally be given in combination with a preparation of iron.

CHRONIC DYSPEPSIA.

Chronic dyspepsia results from a derangement in the quantity and quality of the digestive secretions, or in an impairment of the functions or structures of the organs which assist digestion, but except in degree does not materially differ from acute dyspepsia.

The symptoms are :—weight, fulness, and a sinking sensation about the stomach ; discomfort after food, for which there is a craving, with a disinclination to eat ; obstinate constipation ; flatulence ; acid eructations ; heartburn ; nausea with occasional vomiting ; languor ; irritability of temper ; palpitation, shortness of breath with a short hacking cough ; cold feet and hands ; nervous depression ; and emaciation.

The treatment consists in the regulation of the diet, which should be plain, wholesome, and nutritious, taken at fixed hours and in small quantities. Spices and hot condiments should be avoided, and also alcoholic stimulants, which only afford *temporary* relief, and tend to aggravate rather than remedy the disease. A proper amount of outdoor exercise, not taken immediately before or after a meal, with cheerful society and avoidance of all mental anxiety and worry, are most essential. The medicinal treat-

ment depends mainly on the cause of the disease, and consists in regulating the bowels, improving the general health, and alleviating the symptoms. In derangement of the functions or in structural changes in the organs of digestion the appropriate treatment for these diseases is necessary.

HABITUAL CONSTIPATION.

Habitual constipation, from which the Anglo-Indian suffers, is chiefly dependent on want of tone of the bowels, resulting from deficient secretion or impaired enervation. It should be borne in mind that this malady may exist in spite of the fact that the bowels are relieved daily, and that it is by no means rare for the bowel, instead of being a hollow tube, to be converted into a solid rod.

The symptoms are very varied, but the most common are headache, flatulence, loss of appetite, palpitation, giddiness, drowsiness after meals, coldness of the hands and feet, and inability for mental or bodily exertion. The treatment must necessarily be tedious as the malady is of an insidious character. Careful dieting, open-air exercise, and the habit of regular defæcation are as essential for the successful issue of the case as medicinal aid.

Brown bread, oatmeal, marmalade, stewed fruits, and green vegetables should form a part of the daily food, whilst meat should be eaten in great moderation, and not oftener than once in twenty-four hours.

A good after-dinner digestive pill is one grain of Socotrine aloes, a quarter of a grain of extract of nux vomica, a quarter of a grain of extract of belladonna, and one grain of extract of gentian.

Tamar Indien is an agreeable and mild aperient ; a claret glass of Hunyadi Janos water, taken early in the morning on an empty stomach, often has a beneficial result, and a tumbler of *hot* water taken every morning and evening will lubricate the bowel, relieve the symptoms of dyspepsia, and remedy the deficient secretion.

Massage is a most reliable form of treatment, but requires experience and practice in its proper use. Enemata, either simple or medicated, prove serviceable in unloading the bowel, but should not be employed either too frequently or indiscriminately, as it is always a difficult matter to discontinue them.

Amongst the more recent remedies are the fluid extract of cascara sagrada (dose thirty drops three times a day), euonymin, tridin, and leptandrin, but their efficacy is more than doubtful. Ten drops of dilute nitromuriatic

acid with ten drops of tincture of gentian in an ounce of decoction of taraxacum should be taken three times a day in addition to the other remedies.

CHRONIC DIARRHŒA.

Chronic diarrhœa is one of the most intractable of the diseases from which the Anglo-Indian suffers. It usually follows on previous disease though it does sometimes occur in persons who have not had any apparent illness during their residence in India.

As a matter of fact, however, the general health has been enfeebled and the blood impoverished, so that the invalid is susceptible to the influence of the cold and damp, which may produce congestion of the lining membrane of the bowel. This is best guarded against by wearing a flannel belt around the abdomen, hips, and loins. The congested condition is often aggravated by excessive eating, more especially of a meat diet, and it is as well to bear in mind that the digestive organs, which have probably been weakened by disease or enervated by comparative inactivity, are unprepared for the additional strain with which the change of diet necessarily burdens them. The simplest diet is

the most suitable and in extreme cases solid diet cannot be tolerated. Milk, diluted with one third part of lime water, may be given exclusively, but it is an error to give it too frequently during the day. Undiluted milk nearly always disagrees, and coagulating in the stomach and bowel, keeps up a constant irritation. Tea, coffee, and all alcoholic stimulants should be avoided. Beef-tea, beef-juice, chicken broth, egg-flip, and farinaceous foods are admirable substitutes for the milk.

As a medicine the castor-oil emulsion, which can be rendered almost tasteless, is useful. One teaspoonful of castor-oil mixed with ten drops of spirits of chloroform, five drops of laudanum, a teaspoonful of powdered gum acacia, and a teaspoonful of simple syrup in an ounce and a half of caraway water may be given every morning and evening.

The chronic diarrhœa, which depends on the presence of malaria in the system, invariably occurs in paroxysms and is often preceded by feverishness, and can only be checked by the appropriate treatment for fever, *i. e.* quinine with an excess of dilute sulphuric acid or by arsenic. The addition of a few drops of laudanum is often advantageous.

The persistent but simple diarrhœa which follows after cholera or dysentery is mainly due

to the impoverishment of the blood, consequent on these exhausting diseases, and to deficient absorption. Plenty of fresh air, a moderate and chiefly farinaceous diet, rigid total abstinence from all wines or spirits, and gentle tonics of quinine and iron, Fellowes' syrup, or Parrish's food, are suitable and effectual remedies. A teaspoonful of the liquid extract of Bael fruit in half a wineglass of water every four hours is also serviceable. By far the most common cause, however, of chronic diarrhœa is derangement of the functions of the liver, dependent either on congestive or inflammatory conditions or on the increased activity, caused by the sudden change from a hot to a temperate climate.

Fresh air, total abstinence, and a plain diet are essential. The selection of suitable medicinal remedies is a matter of serious difficulty, but there is little doubt that too much reliance must not be placed on the employment of astringents.

Ten grains of bicarbonate of soda in combination with ten drops of sal volatile, ten drops of the liquor of taraxacum, twenty drops of tincture of rhubarb, and five drops of laudanum in half a wineglass of cinnamon water may be given with advantage three times a day. A pill containing two grains of calomel with a quarter of

a grain of extract of opium taken every morning and evening will often check the diarrhœa. Ten drops of dilute sulphuric acid with five drops of laudanum in half a wineglass of water every four hours is also efficacious.

In certain appropriate cases astringents are necessary. Ten grains of carbonate of bismuth suspended in an ounce of mucilage given three times a day with eight grains of lead and opium pill at bedtime will frequently restrain the discharges from the bowels.

In all cases of chronic diarrhœa a teaspoonful of Bragg's vegetable charcoal should invariably be taken shortly before each meal, in conjunction with whatever course of treatment may be adopted. Later on mild tonics of quinine and iron, dilute nitric acid, or arsenic should be given to invigorate the constitution and restore the general health.

CHRONIC DYSENTERY.

Chronic dysentery is for the most part the result of an attack of acute dysentery in which the lining of the bowel either remains in an irritable condition, or is ulcerated, or in which the ulcers have imperfectly cicatrised. The symptoms of chronic dysentery vary only in

degree from those of the acute disease, but the invalid is usually much emaciated, and has a peculiar sallow expression of countenance, with a dyspeptic tongue, furred in the centre, and red at the tip and edges, indicative of the disease. The straining and accompanying pain are diminished, and the evacuations often consist of mucus alone, or mucus tinged with a little blood. The functions of the liver and spleen are usually disordered, and structural changes have often occurred in these organs.

Although the symptoms, but less severe, are very similar to those met with in acute dysentery the treatment varies.

Every means should be taken to allay the irritation and quiet the movements of the bowel. Tonic astringents with opium are the most reliable remedies for this purpose. Any accumulation which may exist should, however, be removed.

As the constitution of the invalid has invariably been undermined by disease, it is highly probable that the system is impregnated with malaria, consequently the administration of quinine is imperative.

No better treatment can be commenced with than giving ten grains of Dover's powder, in combination with five grains of quinine, three times a day. A teaspoonful of liquid extract

of Bael fruit taken in half a wineglass of flavoured water every three hours is often very serviceable in restraining the discharges from the bowel, or half a teaspoonful of Friar's balsam, and with a teaspoonful of tincture of catechu, and ten drops of laudanum given in an ounce of decoction of logwood every four hours will frequently prove an efficient remedy.

Castor-oil, in teaspoonful doses, taken twice or three times a day, is the most harmless aperient for the removal of any accumulation, though sometimes this drug apparently aggravates the symptoms of the disease. When this is the case an alkaline aperient containing ten grains of bicarbonate of soda, ten grains of powdered rhubarb, ten drops of sal volatile in an ounce of infusion of rhubarb, may be substituted for the oil. In intractable cases the treatment by enemata is often attended with excellent results, but on no account must any force be used.

Hot and cold water enemata have each their advocates, but the selection is quite immaterial since the sole object of these unmedicated enemata is to remove all source of irritation by freely washing out the bowel, consequently, lukewarm water has an equally satisfactory result.

An enema of fifteen to thirty drops of

laudanum suspended in an ounce of starch, will invariably relieve the straining; whilst an enema, containing ten grains of acetate of lead, rendered soluble by the addition of ten drops of dilute acetic acid, with a quarter of a grain of acetate of morphia in four to six ounces of lukewarm water may be given with advantage. A small enema, containing twenty grains of nitrate of silver, or a teaspoonful of the liquor of the nitrate of iron dissolved in four ounces of lukewarm water, with the addition of fifteen drops of laudanum, may be substituted for the lead injection, and *slowly* injected with benefit into the lower part of the bowel.

When the functions of the liver are disordered, ten drops of dilute nitromuriatic acid, with ten grains of extract of taraxacum, in an ounce of a bitter infusion of gentian or quassia given three times a day, in conjunction with ten grains of Dover's powder, or a grain of the extract of opium at bedtime will act most beneficially in checking the disease.

If the spleen should be enlarged, five grains of quinine, or larger doses, should the invalid have suffered much from fever, should be given three times a day, or fifteen grains of bromide of potassium, with half a teaspoonful of the liquid extract of ergot, two grains of carbonate of ammonia, and ten drops of laudanum should

be given in an ounce of cinnamon water three times a day.

A *fluid* nutritious diet is absolutely necessary, and too frequent feeding should be avoided.

Milk should invariably be diluted with one fourth part of lime water, and with every meal a teaspoonful of Bragg's vegetable charcoal should be taken in a little water.

All alcoholic stimulants should be rigidly avoided.

CONGESTION OF THE LIVER.

Congestion of the liver may attack the Anglo-Indian on his homeward journey or occur in repeated attacks after his return to his native country.

The application of cold to the surface, and not unfrequently errors in diet, are the usual exciting causes, more especially when the invalid's blood has been previously impoverished by frequent attacks of malarial fever.

The action of cold upon the system, by which the blood is driven inwards to the internal organs, accounts for the passive congestion, and this condition is greatly increased when it happens that the invalid has suffered from antecedent torpor of the liver.

The brain, the lungs, and other organs often participate in this congestion, and these complications, added to the enfeebled heart's action and the impoverished state of the blood, considerably increase the serious nature of the illness, and even the danger to life. The symptoms are :—heaviness and oppression about the liver, pain between the shoulders, irritability of temper, indigestion, flatulence, constipation, a muddy-sallow unhealthy look, debility, and loss of flesh.

The treatment consists in the administration of an active purgative pill, containing two grains of calomel in combination with three grains of compound extract of colocynth, one grain of ipecacuanha powder, and one grain of the acetous extract of colchicum given every night at bedtime until it produces copious biliary discharges.

When the enlargement of the congested liver has been reduced, the quantity of the calomel should be diminished and finally omitted, whilst a quarter of a grain of the hydrochlorate of morphia should be substituted for the colchicum. Ten to fifteen drops of the dilute nitromuriatic acid in an ounce of decoction of taraxacum should be given three times a day, whilst mustard leaves should occasionally be applied over the region of the liver.

Warm baths, morning and evening, with daily friction over the liver, should be perseveringly continued throughout the illness.

The diet, in the early treatment, should be purely farinaceous, and all alcoholic drink should be strictly avoided. As the health improves, game, poultry, and meat should be sparingly allowed, and at the same time mild preparations of iron should be judiciously given.

TORPOR OF THE LIVER.

Torpor of the liver is a very frequent disorder, and may be due either to functional disturbance or structural alteration. The severity of the illness greatly depends on the previous health of the invalid, who, during his residence abroad, may have enjoyed comparatively good health, or have suffered from repeated attacks of fever and congestion of the liver. The opposing influences between a hot and cool climate are in themselves sufficient cause to disturb the normal functions of a healthy liver, and much more so is this the case when the invalid's health has been undermined and broken down.

The torpidity of the liver, moreover, induces a vitiated state of the bile, and this condition

of impurity gives rise to severe headache with symptoms of indigestion. In this disorder too, the digestive fluids—gastric, biliary, and pancreatic—are defective in quantity and quality, and consequently nutrition is impaired. There is also a marked acidity of the stomach and bowels with invariably some disturbance in the functions of the kidney, which seem to assume a vicarious action to compensate for the disturbed condition of the liver. This sympathy, which exists between the liver and the kidneys as well as between the other organs of the body, frequently leads to a variety of symptoms which may entirely mask the true nature of the illness unless great care is exercised in arriving at a correct conclusion.

The symptoms are:—sallow expression of face, emaciation, mental depression, headache, giddiness, restless sleep, disturbed by dreams, ennui, peevishness, a short hacking cough, disordered bowels, and dyspepsia. Frequently there is a peculiar sickly smell from the body and in the breath of the invalid, who occasionally may also suffer from yellow vision. The treatment aims at stimulating the defective action of the liver by giving fifteen grains of bicarbonate of soda in combination with ten drops of sal volatile and ten grains of extract of taraxacum in an ounce of flavoured water three

times a day with a pill at bedtime, containing three grains of blue pill, half a grain of powdered ipecacuanha, two grains of compound extract of colocynth, and two grains of extract of henbane. This pill should not be continued for long as the repeated use of mercury tends to perpetuate the illness. A useful substitute for occasional use is a pill which contains two grains of Socotrine aloes, one grain of quinine, half a grain of powdered ipecacuanha, a quarter of a grain of podophyllin, a sixth of a grain of extract of nux vomica, and a sufficiency of compound rhubarb pill to form the whole into a consistent mass. During the later stages of the illness, ten drops of dilute nitromuriatic acid combined with ten drops of tincture of gentian, and ten grains of extract of taraxacum, should be given in an ounce of water three times a day to impart tone to the digestive functions and to promote the biliary secretion. The addition of ten drops of tincture of nux vomica will often increase the efficacy of this medicine, more especially if there should be any tendency to irritability of the lining membrane of the bowel.

In long-standing cases it is advisable to alternate the soda mixture with the acid medicine, the former being given after, and the latter before meals.

Attention to diet, regular habits, and pure air form an essential part of the treatment. Anæmia is frequently associated with this disease, and should be treated by a judicious combination of the two treatments. A useful tonic under these circumstances is five grains of citrate of iron and ammonia, ten grains of bicarbonate of soda, ten grains of extract of taraxacum, ten drops of tincture of colchicum with a teaspoonful of syrup of ginger in an ounce of water given twice or three times a day.

When there is reason to believe that the structure of the liver has undergone change, recourse should be had to the nitromuriatic acid bath.

CHRONIC ENLARGEMENT OF THE SPLEEN.

Enlargement of the spleen is generally to be found in every old Anglo-Indian, though the invalid may be unaware of its existence until he seeks medical aid, perhaps, for quite a different complaint. The symptoms, sometimes entirely absent, usually are :—a sense of fulness and weight in the left side, sallow and unhealthy appearance, paleness of the gums, which are often soft, spongy, and liable to bleed,

shortness of breath on any exertion, palpitation, nausea and vomiting, swelling of the limbs and eyelids, great debility and prostration, wasting, and numerous dyspeptic ailments. The treatment consists in regulating the bowels with a teaspoonful of compound liquorice powder, or a dessertspoonful of fruit salt, and taking five grains of quinine in pill or capsule thrice a day. Five drops of Fowler's solution with five grains of citrate of iron and ammonia in an ounce of flavoured water should be given three times a day after food. Under certain conditions two and a half grains of iodide of potassium with ten grains of bicarbonate of potash and ten drops of tincture of bark have a beneficial action, and sometimes fifteen grains of bromide of potassium in an ounce of camphor water, given three times a day, will prove very efficacious.

Locally, the red iodide of mercury ointment—ten grains to the ounce—should be rubbed into the side before a fire once or twice a week; and the abstraction of blood by numerous punctures with a fine needle or by means of an aspirator will materially hasten the cure.

CHRONIC INFLAMMATION OF THE BOWELS.

Chronic inflammation of the bowels results from an acute or subacute attack, contracted whilst the invalid was abroad. It is a tedious complaint because the lining of the bowel is thickened and often altered in structure.

The symptoms are:—sallowiness, anæmia, intermittent pain in the abdomen, increased on pressure and localised to certain spots, nausea and vomiting, obstinate constipation, alternating with diarrhoea, flatulence, and other signs of dyspepsia.

The treatment should be persistent, and the habitual use of purgatives strongly discountenanced. The general health should be improved by two grains of quinine, with ten drops of the tincture of the perchloride of iron, given three times a day, and a pill at bedtime containing one grain of extract of Socotrine aloes, a quarter of a grain of extract of nux vomica, a quarter of a grain of extract of belladonna with a sufficiency of extract of gentian. The diet should be light, simple, and nutritious, and all alcoholic stimulants should be avoided.

The constipation is the most troublesome symptom since the expelling power (peristaltic action) in the bowel is lost. Whilst the tonic

of quinine and iron, and the pill containing nuxvomica and belladonna are strengthening the system and giving tone to the bowel, large enemata of two pints of soap and water should be used *daily* to clear out the bowel and prevent an accumulation. Should there be much flatulence an occasional turpentine enema will materially assist in dispelling it. Tender and painful spots in the abdomen should be thickly painted with tincture of iodine, or flying blisters, the size of a florin, should be applied and subsequently dressed with an eighth of a grain of morphia. As soon as the disease shows any distinct sign of improvement, systematic massage should be regularly carried out. This method of treatment is very efficacious if properly performed, either by a trained nurse or a qualified assistant, and acts by increasing the secretions of the bowel, by stimulating the contractile (peristaltic) power, and by mechanically kneading and pressing down any accumulation. The symptoms of dyspepsia should receive their appropriate treatment, but only the cure of the disease will effectually remove them.

DIETARY FOR INVALIDS.

BEEF-TEA.

Take one pound of gravy beef, free from fat, skin, and gristle, chop it up very fine, add a pinch of salt and one pint and a quarter of cold water, put it into an earthen jar with a lid, fasten up the edges with a thick paste, place the jar in the oven for three hours, and then strain it through a tammy sieve into a clean basin.

BEEF-ESSENCE.

Take one pound of lean beef, from the sirloin or rump, cut it into thin slices, lay them on a trencher and scrape them as fine as sausage meat, put into a copper stewpan, stir on the fire until thoroughly warm, and add one lump of sugar, a pinch of salt and one pint of cold

water. Cover the stewpan closely, let it simmer for twenty minutes and then strain through a coarse sieve to extract the essence.

BEEF-JUICE.

Take one pound of lean beef, free from fat and skin, cut into small square dice, place in a shallow dish, add a pinch of salt and sufficient cold water just to cover the meat, and allow it to stand for two or three hours.

The addition of four or five drops of hydrochloric acid assists in the preparation of this juice.

Chicken juice is made in the same manner, by substituting the white meat of the chicken for the beef.

MUTTON BROTH.

Take three pounds of scrag end of neck of mutton, slice two turnips, add a tablespoonful of pearl barley or rice, a pinch of salt, and boil in three quarts of water. Let it simmer gently for three hours, skim it well, and serve.

Veal broth is made in the same manner by the substitution of knuckle of veal for the mutton.

ARROWROOT.

Take one dessertspoonful of best arrowroot and half a pint of milk. Mix the arrowroot smoothly with a little of the milk. Boil the rest of the milk with one small lump of sugar, and as it begins to boil, add to it the arrowroot which has been mixed with the cold milk, stirring the whole time, and let it continue to boil for three minutes, which will prevent it becoming thin as it cools.

BREAD PUDDING.

Take half a teacup of bread-crumbs and mix them with an egg beaten up previously with a teacupful of milk and a dessertspoonful of castor sugar ; tie it over and boil it for half an hour.

BAKED CUSTARD PUDDING.

Take four eggs and one pint of milk. Beat up in a basin the yolks of the eggs, gradually adding the milk, sweeten with a dessertspoonful of castor sugar, flavour with a teaspoonful of lemon-juice or four drops of lemon essence, and bake it in a very slow oven for half an hour.

BOILED CUSTARD PUDDING.

Prepare the custard in the same manner as for baked custard pudding; then, instead of baking it, steam it by placing the basin in a saucepan of boiling water, taking care that the water in the saucepan does not reach higher than half way up the level of the custard.

RICE PUDDING.

Take two ounces of whole rice, one pint of milk, a flavouring of lemon-peel, a tablespoonful of castor sugar, one ounce of butter, and two eggs.

Let the rice swell in the milk over a slow fire, add the lemon-peel and sugar, stir in the butter, and let it cool. Beat up the eggs, and mix with the rice, and then bake for one hour in a moderate oven.

SAGO PUDDING.

Take one ounce of sago, wash it, put it into a saucepan with half a pint of water, let it simmer for ten minutes, add a dessertspoonful

of castor sugar, and a teaspoonful of lemon-juice, and then boil it.

TAPIOCA PUDDING.

Take one ounce of tapioca, wash it, let it simmer gently in one pint of milk for a quarter of an hour, stirring it occasionally, and then allow it to cool. Beat up two eggs with a dessertspoonful of castor sugar and an ounce of butter and add to the tapioca. Bake it in a moderate oven for one hour.

BLANC MANGE.

Dissolve in one quart of warm milk one ounce of fine isinglass and strain it through a fine piece of muslin. Add a quarter of a pound of pounded white sugar and the peel of a lemon cut very thin, allow it to gradually warm, and then pour in the yolks of six eggs, well beaten up. Put the whole into a stewpan and stir it over a moderate fire until it thickens and then pour into a jug until nearly cold, when it should be put into a china mould and allowed to stand until quite cold.

BARLEY WATER.

Take two ounces of pearl barley and wash it thoroughly clean. Put the barley into a jug and pour a quart of boiling water over it. Peel a lemon very thin, pour half a pint of boiling water over it, squeeze out the juice, sweeten to taste, strain it, add it to the barley water, and allow it to stand for several hours. The addition of half an ounce of fine isinglass boiled in the water will thicken it.

TOAST AND WATER.

Toast a small square of crumb of bread before a slow fire until quite hard and brown, put it into a jug, pour over it a pint of freshly boiled water, put the lid on, let it stand for ten minutes, and then strain it off. The water should be boiled in a china pipkin—a fireproof china jug—as boiling in an iron kettle gives an unpleasant flavour to the water.

LEMONADE.

Grate the peel of six lemons into a jug, pour over it one quart of boiling water, let it stand

for one hour, add the juice of the lemons (avoiding the pips) and a quarter of a pound of best lump sugar, run it through a jelly bag, and when cold it is ready for use.

IMPERIAL DRINK.

Slice three lemons, add a tablespoonful of cream of tartar, pour over it a quart of boiling water, sweeten with a quarter of a pound of best lump sugar and strain.

LINSEED TEA.

Take one ounce of linseed and one ounce of liquorice root cut very thin, put together in a jug, pour a quart of boiling water over them, and let it simmer gently by the side of the fire for three hours and then strain it.

TO KEEP MILK SWEET.

Fifteen grains of bicarbonate of soda added to a quart of milk hinders the milk from turning sour.

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